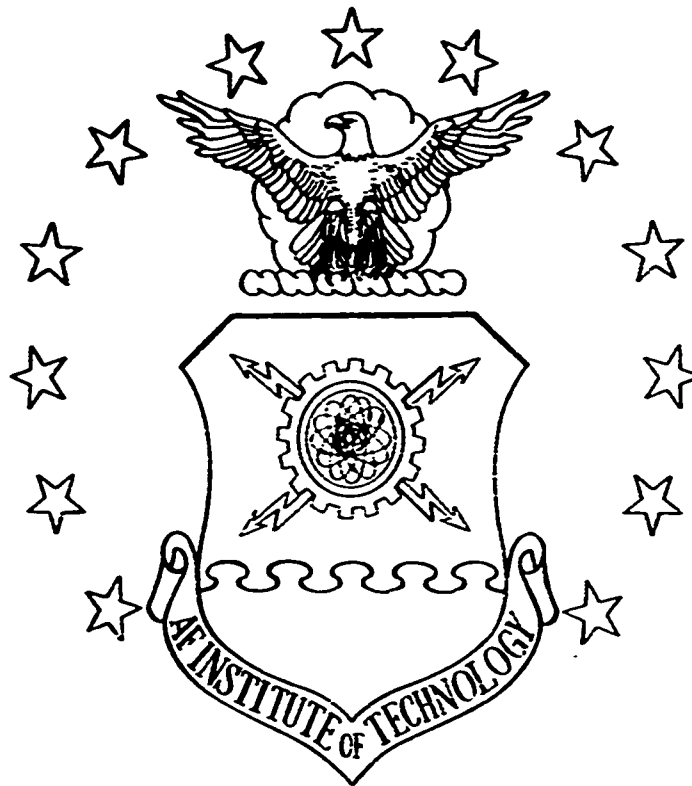AD-A147 754

AN INVESTIGATION OF THE RELATIONSHIP
BETWEEN STRESSFUL LIFE EVENTS AND
PSYCHOLOGICAL, BEHAVIORAL AND
PHYSIOLOGICAL OUTCOMES

THESIS

Byron E. Nielsen   Robert L. Tremaine
Captain, USAF   Captain, USAF

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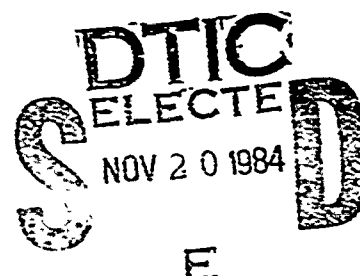
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AN INVESTIGAITON OF THE RELATIONSHIP BETWEEN

STRESSFUL LIFE EVENTS AND PSYCHOLOGICAL,

BEHAVIORAL, AND PHYSIOLOGICAL OUTCOMES

Thesis

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the

Requirements for the Degree of

Master of Science in Systems Management

Byron E. Nielsen, B.S.   Robert L. Tremaine, B.S.

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September 1984

Approved for public release; distribution unlimited

Acknowledgements

We would like to express our gratitude to Major Ovalle, II, whose direction and assistance significantly aided the early completion of this thesis.

We would also like to thank the other faculty members of the School of Systems and Logistics at AFIT whose instruction provided for us the academic background needed for our research effort.

Finally, we would like to thank our wives, Betsy and Denise, whose patience and support saw us through the completion of this thesis effort and the graduate program in general.

Table Of Contents

List of Figures

v

List of Tables

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN
STRESSFUL LIFE EVENTS AND PSYCHOLOGICAL,
BEHAVIORAL, AND PHYSIOLOGICAL OUTCOMES

I. Introduction

Recent evidence in medical and health sciences suggests
that the stress effects upon the individual in organizations
are reaching alarming levels (Schuler, 1980). The many
maladies attributed to stress range from Coronary Heart
Disease to trench mouth (Wallis, 1983). Organizational
problems shown by research efforts to be affected by stress
have included absenteeism, decreased productivity, turnover
and job satisfaction (Jackson, 1983). These stress-caused
problems cost American organizations an estimated 50 to 75
billion dollars each year (Wallis, 1983). Gradually, the
significant problem of stress is being recognized. In fact,
15 states have now approved benefits in cases of
disabilities resulting from job stress (Antilla, 1982).
Hence, the magnitude of stress related problems is beginning
to be taken seriously by not only the academic research
community, but also by the general public (Bhagat, 1983).

The concept of stressful life events is one aspect of
stress that has received well-deserved attention from
research studies. Stressful life events have been linked
empirically to the onset and severity of many health
problems. (Bhagat, 1983; Duckitt & Broll, 1983).

1

Specifically, research has shown a predictive relationship
between stressful life events and sudden cardiac death,
myocardial infarction, menstrual discomfort, pregnancy and
birth related complications, tuberculosis, multiple
sclerosis, and diabetes (Bhagat, 1983). Stressful life
events have also been linked with the psychological problems
of anxiety, depression, decreased academic performance, and
decreased teacher effectiveness (Sarason, 1979). This
wealth of research, though, has left almost untouched the
impact of stressful life events on work behavior in
organizations (Bhagat, 1983). This impact is especially
important in view of the fact that many stress researchers
maintain that stressful life events provoke more stress than
any career or organizational source of stress (Martin &
Schermerhorn, 1983).

Problem Statement

The intent of this thesis effort is to fill in some of
the knowledge gaps which exist in the studies of stressful
life events. Specifically, the relationships between
stressful life events and the following will be explored:
perceived on-the-job stress, perceived off-the-job stress,
Type A behavioral characteristics, and the ratio of total
blood cholesterol to high density lipoprotein cholesterol.
These relationships will be analyzed using the existing data
obtained from two previous AFIT thesis efforts. The data

2

concerning frequency, quality and magnitude of stressful life events were collected in the Life Events Survey (Appendix A) developed and administered by Bunner (Bunner, 1982). The data on perceived stress, job satisfaction, intent to remain, Type A behavior and blood samples were collected as part of the Stress Assessment Package Version 2 (Appendix B) by Martin and Simard (Martin & Simard, 1982). Further descriptions of these surveys and the statistical techniques incorporated to relate them are contained in Chapter III.

II. Literature Review

The following literature review presents a general
background of the subject areas covered by this thesis
effort. The intent of the literature search was to discover
and subsequently synthesize what is currently known in the
fields of stress, stressful life events, and the major
problem of Coronary Heart Disease. The review will first
define terms in the stress and stressful life events fields.
Next, literature concerning factors affecting stressful life
events perceptions and effects (organizational effects in
particular) will be reviewed. Finally, a background on
coronary heart disease will be presented, emphasizing the
factors that contribute to its onset, thereby establishing a
background for a later investigation into the relationship
between stressful life events and two significant predictors
of coronary heart disease.

Stress

The literature reviewed reflects a lack of
standardization in defining terms in the stress field of
study. The lack of a universally agreed upon meaning of
stress occurs not only in the general scientific community,
but also within the narrower group of behavioral scientists
(Beehr & Newman, 1978). In its usually negative
connotation, stress is conceptualized in terms of

environmental demands possessing extreme or noxious characteristics (Abdel-Halim, 1978; Ivancevich, Matteson, & Preston, 1982). Another view of stress deletes the requirement of an extreme demand by referring to it as "an imbalance between personal resources and situational needs which affects the person's behavior and psychological and physiological well-being" (Petrie & Rotheram, 1982).

Many studies of stress have now recognized the possible existence of a positive element within the concept of stress (Schuler, 1980). One such study defines stress as a "positive or negative response condition of the individual that arises from a subjective appraisal of demands, constraints, and/or opportunities in the person-environment fit" (Martin & Schermerhorn, 1983). To remain consistent with the more accepted view of stressful life events as having a possibly positive element, this thesis accepts this latter definition of stress.

Although there is also confusion as to the presence of a positive element in the conceptualization of the term stressor, the literature generally agrees that a stressor is an external factor or stimulus which causes stress within the individual (Beehr & Newman, 1980; Cherry, 1978; Cummings & DeCotiss, 1980; Martin & Schermerhorn, 1983). In the study of occupational stress, organizational factors which have been considered to be stressors have included role characteristics (role conflict and ambiguity), task

5

characteristics, leader processes, interpersonal conditions, and structured characteristics (Schuler, 1980).

Another term often used in stress literature is strain. In general, strain can be defined as deviations from normal responses in a person which can result in such effects as anxiety, job dissatisfaction, high blood pressure and smoking behavior (Cooke & Rousseau, 1982). In the context of stress, strain can be thought of as an individual's response to stress. The literature disagrees as to whether strain is what the individual actually undergoes psychologically and physiologically as a result of stress (Eden, 1983), or simply what the individual reports he is feeling (Cherry, 1978). Because this thesis is dealing with both survey data and blood samples, the reported individual strain will be assumed to be essentially the same as the actual psychological and physiological response of the individual. The physiological aspects of the stress/strain phenomena will be discussed in more detail later in this chapter.

Stressful Life Events

Although many studies have addressed the relationship between job-related stressors and either employee behavior or perceived stress, off-the-job stressors have rarely been subjected to the same relationship (Bhagat, 1983). The number of chronic diseases and significant psychological

6

disturbances previously cited as results of stressful life events reveal that understanding stressful life events is essential for the United States Air Force as well as any other organization.

Life Events are events which require adaptive behavior and cause significant alterations to an individual's psychological or physiological system (Cooke & Rousseau, 1982). A stressful life event can be thought of as a life event that functions as a stressor. The positive or negative quality of the stressful life event depends on the individual's perception of the event (Bhagat, 1983). Some of the most frequently reported stressful life events are loss of job, increased expenses, a raise, and loans (either mortgages or loans of greater than $10,000) (Fontana, Hughes, Marcus, & Dowds, 1979).

In attempting to measure the effect of stressful life events on individuals, a number of life change scales have been used. Typically, the scales rate the life event based on the amount of perceived change that it produces. This weighted score is then summed with the other weighted life event scores to develop a life change score for the individual (Fairbank & Hough, 1978).

Certainly the most frequently addressed and utilized technique of measuring life events is that developed and tested by Holmes and Rahe (Bhagat, 1983; Fairbank & Hough, 1979). Holmes and Rahe developed a Social Readjustment

7

Scale, which measures the amount of social readjustment that an ordinary individual would undergo after experiencing one of 43 stressful life events listed in the survey (Masuda & Holmes, 1978; Redfield & Stone, 1979). Social Readjustment can be conceptualized as the degree and duration of accommodation required to cope with either a desirable or undesirable life event. The 43 life events were selected based on a clinical history of 5,000 patients who experienced life events and subsequently contracted an illness (Masuda & Holmes, 1978).

Whereas the Holmes and Rahe Social Readjustment Scale measured the individual's perception of the magnitude of an experienced life event, the Holmes and Rahe Schedule of Recent Experiences measures the frequency of occurrence of the 43 life events. Life Change Units are then calculated by summing the products of the numbers of occurrences of life events multiplied by the assigned Social Readjustment Rating Scale values (Masuda & Holmes, 1978). This methodology has proven useful in evaluating the impact of stressful life events on individuals.

Many stressful life event researchers maintain that assessing the impact of stressful life events on individuals is a complex problem which must take into account the many possible individual differences and intervening variables (Shaw, 1982). The perceived magnitude estimation of the Social Readjustment Rating Scale, for example, measures

8

perhaps the most important concept in understanding the impact of stressful life events on individuals--the individual's perception of the life event. In fact, the perception of the quality of a stressful life event (i.e. the perceived magnitude of desirability or undesirability) is in many cases more important than the actual event experience itself (Byrne & Whyte, 1980).

This importance was dramatized when Byrne and Whyte surveyed 160 patients recently discharged from a coronary care unit to investigate the relationship between stressful life events and myocardial infarction (Byrne & Whyte, 1980). Intuitively, one would expect myocardial infarction victims to have experienced life events that were inherently more stressful than the life events experienced by non-victims. Instead, the study showed that the life events experienced by the victims were not appreciably different than those experienced by the non-victims. The differences between the two groups were the individuals' perceptions of the events. The myocardial infarction victims reported far more emotional distress in conjunction with the life events than did the non-victims.

A number of individual characteristics have been shown by the stressful life events literature to affect an individual's perception of the life event. One article proposed that the individual characteristics of marital status, socioeconomic status, ethnicity, and education all

9

affected life event preception (Masuda & Holmes, 1978). A study by Redfield and Stone described a survey in which subjects were asked to rate the events of pregnancy, birth, and marriage. A group of older male subjects attached much more meaningfulness and desirability to the life events than did a group of younger female subjects (Redfield & Stone, 1979). This difference in perceptions was attributed to the individual characteristics of age and sex. For example, one explanation is that older people would be less likely to have short term goals that could be interrupted by events such as pregnancy or birth. Another explanation offered by the authors is that women might see pregnancy and birth as more of a source of life change than would men (Redfield & Stone, 1979).

The sex variable, though largely neglected by the literature, is potentially the most significant of the individual characteristics affecting the perception of stressful life events. In an attempt to illustrate this importance, Stewart and Salt devoted their entire research effort to exploring the impact of sex on stressful life event effects (Stewart & Salt, 1981). The authors maintain that because women are playing a more active business role in today's society, they are now subject to unique pressures due to multiple role expectations (e.g. being a mother as well as a career woman). Masuda and Holmes reflected these proposed pressures in their laboratory findings that women

10

tended to score life events higher than did men, but they hypothesized that the difference in scoring was due to the greater emotionality of women (Masuda & Holmes, 1978). Stewart and Salt found that women react to stressful life events through depression, possibly because of a percepton of not being in control in non-work situations (Stewart & Salt, 1981). Men, on the other hand, were found to react to stress through somatic illnesses, possibly because of internally perceiving psychological stress effects as somatic illness symptoms (Stewart & Salt, 1981).

In addition to their previously mentioned findings on the variable of sex, Masuda and Holmes also discovered other variables which affect individual perceptions of stressful life events. The authors confirmed Redfield and Stone's findings by discovering that older people (over 60 years old) scored life events significantly lower than younger and middle-aged subjects (Masuda & Holmes, 1978). Another variable found to affect perceptions of stressful life events was educational level. Generally, the study found that a higher education level tended to predict higher scores attached by the subjects to life events although the authors admitted that their sampling procedures could have caused inaccurate results. Ethnicity was also found to be a factor in stressful life event perception, but like the data for the education variable, questionable sampling procedures prevented the drawing of any confident conclusions. Lastly,

11

Masuda and Holmes also found that subjects who had recently
experienced the life event they were rating tended to rate
that event higher than subjects who had either not
experienced the event, or had experienced the event more
than three years previously (Masuda & Holmes, 1978).
Finally, Schuler has hypothesized that the quality of the
individual's perception of a stressful situation is
associated with the extent of Type A behavior he/she
exhibits (Schuler, 1980). Literature concerning the link
between Type A behavior and Coronary Heart Disease (CHD)
will be reviewed later in this chapter.

In summary, one of the most important aspects of the
impact of stressful life events upon individuals is the
individual's perception of the event. Current literature
has found factors such as age, sex, education, ethnicity,
and Type A behavior to affect the individual's life event
perception. Consistent with this emphasis on life event
perception is the Life Events Survey used in this thesis
effort to measure both the quantity and quality of stressful
life events experienced by the subjects. Specifically,
subjects are asked to rate each life event experienced based
on the perceived type of stress (positive or negative) and
the perceived magnitude of stress (measured by a seven point
scale ranging from insignificant to significant).

12

Individual Characteristics

An aspect of the stressful life event subject area receiving much literature attention is an investigation into which individual variables moderate the effects of stressful life events. For example, Duckitt and Broll (1983) investigated the possible moderating effects of six personality traits. It should be noted that this study did not address whether or not these variables affected stressful life event perception. Of the six traits (anxiety, extraversion, critical independence, sensitivity, shrewd pragmatism, and inhibition), only sensitivity was found to moderate the effects of life stress on illness behavior. A possible explanation offered by the study was that outer-directed or tough minded individuals might interpret the effects of life event stress in terms of physical illess rather than psychological distress, and thus be more likely to show illness behavior. This finding should be approached cautiously, however, since sensitivity contributed only weakly to the stressful life event-illness relationship.

Another study finding little if any contribution of personal variables to the relationship between stressful life events and their effects was accomplished by Cooke and Rousseau (1983). These authors found that the relationship between life events and strain was not moderated by personal orientations, defined as "preferences, values, and beliefs

13

about oneself in relationship to the environment that can be manifested in behaviors" (Cooke & Rousseau, 1983). The study, however, found that personal crientations were directly related to strain.

Contrasting Cooke and Rousseau's finding is the model proposed by Dunham (Cummings & Dunham, 1980). Dunham maintains that physical factors, such as strength, and non-physical factors, such as "psychological or sociological, e.g. personality, ability, etc." (Cummings & Dunham, 1980) can influence the individual's reaction to stress. In this regard, one study found that individual characteristics moderating the relationship between stressful life events and illnesses are biological predisposition, long standing behavioral traits, durable personaliy traits, and social functioning characteristics (Allen, 1981).

Thus, although a large number cf individual variables have been investigated as potential moderators on the effects of stressful life events, a consensus among authors as to which individual characteristics have the greatest effect does not exist.

Life Event Characteristics

Another concept that is a possible cause of variation in the effects of stressful life events on individuals is the characteristics of the life event itself. For example,

14

Pardine et al found that the events of family adjustment (change in health of family member), finances (mortgages or loans over $10,000) and changes in social or recreational activities produced the most severe stress-related effects upon individuals (Pardine, Higgins, Szeglin, Beres, Kravitz, & Fotis, 1981). More generally, Duckitt and Broll maintain that negative stressful life events significantly predicted illness behavior (Duckitt & Broll, 1983). When evaluating the importance of a life event characteristic, it is essential to consider the individual's perception of the event in question (as previously discussed), along with what individual characteristics might affect that perception (Byrne & Whyte, 1980).

This importance in perception in evaluating the significance of Life Event characteristics is reflected in a study by Fairbank and Hough (1979). These authors categorized possible stressful life events as follows:

1) Positive with Personal Responsibility

2) Negative with Personal Responsibility

3) Ambiguous Event-Personal Responsibility Ambiguity

4) Negative without Personal Responsibility

An application of this life event classification on existing data showed that it is not the events beyond a person's control which are linked with illness, rather, "it is the occurrence of events over which a person may have control

15

and which may reflect the subject's inferior functioning in a social context which is correlated with illness" (Fairbank & Hough, 1979). Thus if the subject perceives that he or she could or should have been able to avoid or prevent the occurrence of the event (or handle it better), then he or she will more likely be subject to some form of stress-caused illness.

Hence, the literature has shown the importance of the characteristic of the life event itself and how it interacts with the individual's life event perception. This aspect of stressful life event research will be addressed directly as part of this thesis by investigating the correlation between individual stressful life events (specifically the perceived significance of the event) and Type A behavior characteristics, which could affect the individual's perception of the life event's significance.

Organizational Behavior Variables

The association between psychological and physiological problems due to stressful life events, and undesirable organizational effects (such as ineffective performance or irritability with organizational members) can easily be inferred. Some literature, however, addresses the relationship between stressful life events and organizational effects directly. For example, Bhagat (1983), in an attempt to rectify what he considers a

16

"striking lack of concern among organizational researchers in studying the effects of personal life stress on individual behavaior within organizational contexts," investigated the relationship of stressful life events to reduced job involvement. The resulting study asserts that stressful life events tend to reduce job involvement. Experiencing a stressful life event decreases the individual's psychological strengths which are needed for job involvement. Concerns for job issues and events are often put aside because of more crucial personal concerns resulting from stressful life events. This decrease of job involvement tends to also affect job performance effectiveness, job satisfaction, and other work-related outcomes (Bhagat, 1983).

Another study confirmed this hypothesized link between experienced stressful life events and job satisfaction. In their study of naval personnel, Sarason and Johnson (1979) collected data on which events their subjects had experienced, the degree of desirability of the event, and the estimated impact on their lives. Additionally, the authors used the Job Descriptive Index (JDI) to measure the subjects job satisfaction. Based on their results, negative stressful life events were found to be significantly related to decreased job satisfaction.

Pardine et al also investigated the relationship between stressful life events and job satisfaction. Their

17

study of 72 managers found that significant interactive
effects were present between the two independent dimensions
of non-work stress and job satisfaction (the latter measured
by six 7-point Likert scale survey questions).
Specifically, the authors found that for individuals
experiencing a high degree of nonwork stress, a presence of
on the job stress related positively with job
dissatisfaction and depressed mood (Pardine et al., 1981).

Another organizational effect of stressful life events,
organizational withdrawal, is discussed by Martin and
Schermerhorn. Organizational withdrawal can be described as
an individual's tendency to avoid work through turnover and
absenteeism (Martin & Schermerhorn, 1983). The authors
suggest that upon the onset of a stressful life event, one
of the coping measures used by organizational members is
withdrawal behavior. Turnover has been shown by the stress
literature to be related to stressful life events; however,
the relationship between intent to remain and stressful life
events has not received much attention at all (Brief & Sell,
1981). This gap in the research is especially surprising
since the relationship between turnover and intent to remain
has received much attention in past organizational behavior
literature. In fact, research has shown that intent to
remain serves as a significant predictor of turnover
behavior (Steel & Ovalle, 1984). Nevertheless, literature
desribing the relationship between intent to remain and

stressful life events does not yet exist.

Hence, the few studies investigating the link between stressful life events and organizational effects have found that experiencing a stressful life event can cause a decrease in job involvement, affect job satisfaction, or promote organizational withdrawal. This thesis will examine the relationship between stressful life events and organizational effects by statistically testing the relationships between stressful life events and both intent to remain and job satisfaction.

Coronary Heart Disease

Because any illness has the potential of preventing an individual from performing effectively or efficiently at work, attending work, or having the ability to work at all, research linking stress to somatic and psychiatric illnesses or problems is significant from an organizational perspective. Stress has been shown to be a contributing factor to many somatic problems. Its most significant linkage, however, has been to the onset of coronary heart disease (CHD) (Ivancevicn et al., 1982; Schuler, 1980) and its effects including myocardial infarction and sudden cardiac death (Pardine et al., 1981). To better understand the relationship between stress and CHD, different studies have attempted to derive and narrow the list of factors which comprize CHD. These laboratory and field eforts, such

as blood analyses and questionnaires, respectively, offer
greater clues as to what work and non-work factors serve as
ingredients of CHD. The following paragraphs will describe
these ingredients, thereby setting the stage for the
importance of the linkage between stressful life events and
1) the ratio of total blood cholesterol to high density
lipoprotein (HDL) cholesterol and 2) Type A (coronary-prone)
behavior.

Background

Coronary heart disease leads to the physical breakdown
or deterioration of the heart muscle which results in an
inability to adequately pump blood throughout the body. It
has been postulated that CHD is produced by combinations of
such factors as social arrangement, individual differences,
job demand and stress. The specific weighting of these
factors is unknown; however, past case studies which will be
discussed later conclude that each factor plays a role. In
short, these factors may inhibit what Guyton describes as
the "physiological negative (favorable) feedback response"
and instead instigate ⊂ "positive (disfavorable) feedback
response" (Guyton, 1966). Guyton explains that negative
feedback reacts to internal physiological changes and
restores the body to its usual physical operating state
(homestasis). On the other hand, positive feedback does
just the opposite and can lead to devastating complications

20

including CHD.

Social Arrangement

To begin with, some of the studies indicated that
disruptions or lack of social arrangements in the work
environment played a key role in promoting CHD. For
example, rapid social change or migration within the work
environment led to strain and helped influence the risk of
CHD (Berkman, 1982). In the context of rapid change, some
individuals favor modest change but few enjoy large scale
personal upheaval. The key here is that some unpredicted
change may serve as an an irritant which causes the
development of peculiar changes in blood composition within
the body. Repetitions of an irritant such as rapid change
may weaken an individual's response to change. As a result,
the irritant may in fact stimulate a physiological change
that becomes irreversible and thereby promote a positive
feedback response.

One element common to all studies reviewed was that
individuals were at risk if they had few social and
community ties (Berkman, 1982). This implies that social
arrangements may provide a mechanism for relieving
undesirable anxiety, a possible moderator of CHD. It also
suggests that team relationships in problem solving may be
less straining than solving problems alone. In validation
of this concept, Caplan, in a study of NASA workers observed

21

that little relationship existed between occupational stress and CHD risk for men reporting high levels of support from coworkers (Berkman, 1982). Kissel, another individual who studied this area, reported that "affiliation with others during stress may reduce anxiety and possibly the risk of CHD" (Kissel, 1965). Here, team solutions during stressful situations may serve as a buffer to job stress and hence block any irritants that could promote a postive feedback response. This phenomenon may also help explain why some people better endure the loss of a job. University of Michigan researcher Louis Ferman found a hard-luck victim who had been unaffected by a succession of lay-offs in the last twenty years. Ferman insisted that he should have been a "basket case"; but when asked his secret the man replied, "I've got a loving wife and go to church every Sunday" (Wallis, 1983). This example, though possibly oversimplified, dramatizes the significant influence of social arrangement.

Individual Differences

Another factor which has been scrutinized closely for its influence on CHD has been the personality of the individual, especially in the Framingham Heart study, the Japanese-American study and the Minnesota study. These studies classified people between two groups, Type A Prone Behavior (TAPB) and Type B Prone Behavior (TBPB). TAPB

included hard-driving, competitive and time-urgent
individuals while TBPB individuals did not possess these
characteristics. The three studies confirmed the
relationship between TAPB and CHD. TAPB appeared to almost
double the risk of CHD (Haynes & Feinleib, 1982). Figure 1
shows the results of the Framingham study which was taken
over a period of ten years for men and women aged 45-65
years. The group completed a 300-item questionnire in five
areas including socio-demographic situations, life events,
behavior types, situational stress and somatic strain. This
study in particular assumed that: 1) social situations and
behavioral types may lead to CHD through blood pressure,
cholesterol or smoking and 2) somatic strains were felt to
be the resulting symptoms of psychosocial stress (Haynes,
Levine, Scotch, Feinleib, & Kannel, 1978).

Type (A) / Type (B) Behavior
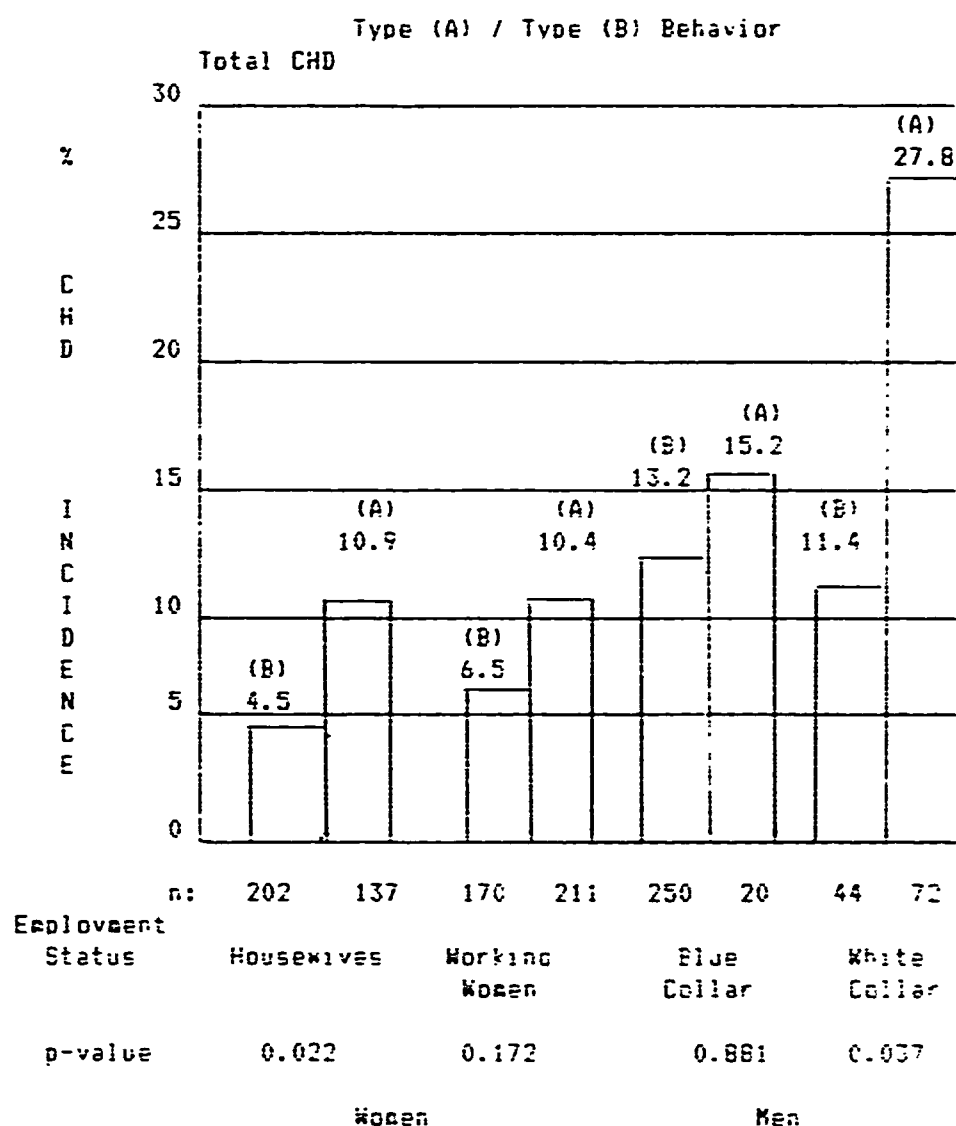
Figure 2-1. 10-year Incidence of CHD Among Individuals with Type A and Type B Behavior Patterns. from "Type A Behavior and the Incidence of Coronary Heart Disease in the Framingham Heart Study" by Haynes and Feinleib, 1982. Advances in Cardiology . p.89

Taken alone, Figure 1 indicated a higher incidence of CHD among TAPB individuals in each category, especially for white-collar men. For a closer look, the Framingham study reviewed individual health in search for the common

24

reviewed individual health in search for the common
characteristics of CHD. They monitored systolic and
diastolic blood pressure, serum cholesterol levels and the
number of cigarettes smoked per day (Haynes et al, 1978).
The results of their analyses were consistent. Except for
cigarette smoking, they concluded that TAPB operated
synergistically with other risk factors to promote CHD
(Haynes et al., 1978). As Haynes and Feinleib suggest, the
expected incidence of CHD would have been linear instead of
exponential if there were no synergism of effects (Haynes &
Feinleib, 1982). The Framingham study reported evidence of
interdependency among some of the postulated risk factors
which described individual health. They verified this
interdependency by plotting all the collected data. The
plotted data formed a curvlinear relationship.

Job Demand

Job demand is the next major factor which requires
attention because case-controlled studies have shown a
significant association between CHD and long working hours.
Generally, increased personal workload leads to changes of
localized chemical processes within the body. The "Selye"
and "Canon" stress responses help paint this process whereby
the neuroendocrine system activates the adrenal cortical
system or the hypothalamo-adrenal medullary system to
increase cortisol or catecholamine excretion (Kornitzer,

25

Kittel, & DeBacker, 1982). Doctor Hans Seyle and
physiologist Walter Canon proved that psychological strain
could cause dramatic hormonal changes and hence
physiological symptoms which could lead to the
"fight-or-flight" response (Kornitzer et al., 1982). They
also showed that when the "fight-or-flight" response became
persistent, long term chemical changes occur, leading to a
depression of the negative feedback response. Increased
amounts of these hormones have been shown to promote CHD in
animal experiments (Kornitzer et al., 1982). Applying this
process to the job environment scenario, Karasek proposed a
"Demand and Control Matrix" (Figure 2-2) from the results of
his model which called for individual self-reporting about
psychological Job Demand (Karasek, Tores, Schwartz, Pieper,
& Alfredsson, 1982).

HIGH DECISION LATITUDE (CONTROL)

RELAXED	ACTIVE	
PASSIVE	STRAIN	

LOW   RELAXED   ACTIVE   HIGH

DEMAND   PASSIVE   STRAIN   DEMAND

LOW DECISION LATITUDE

Figure 2-2. Demand vs Control Model, from "Job,
Psychological Factors and Coronary Heart Disease"
by Karasek, Theorell, Schwartz, Pieper, and Alfredsson,
1982, in _Advances in Cardiology_ , p. 63.

26

This matrix suggests that jobs with high demand and low decision latitude can be harmful. More importantly, however, it has been linked with CHD (Karaesk, Tores, Schwartz et al., 1982). Another important concept that became evident is that low decision latitude may degrade individual coping within the work environment. Without any coping flexibility while in the work environment, the low decision latitude individual may illicit the "Seyle" and "Canon" responses more frequently. As a result, the negative feedback system is taxed to a greater degree. Other studies of prisoners and/or hostages have stressed the importance of maintaining a sense of control over one's environment. Psychologist Julius Segal discovered that one of the American hostages in Iran achieved this by saving food from his meals and offering it to anyone who came into his cell (Wallis, 1983). "That simple coping strategy seemed to transform the cell into a living room and the hostage into a host welcoming visitors" (Wallis, 1983).

The general characteristics of people in this matrix is yet another interesting and important point to surface. Most evidence showed that serum cholesterol and psychosocial job demand, both potential risk factors, were accentuated in higher jobs, yet coronary heart disease was more prevalent in lower status jobs (Karasek, Tores, Schwartz, et al., 1982). This implies that CHD could be independent of positional status. Kornitzer et al has shown that

nervousness and long working hours were the only common
denominator between subjects who had higher systolic or
diastolic blood pressure and increased heart rate (Kornitzer
et al., 1982). In the French-Belgian Collaborative Group,
neuroticism was the factor that discriminated the best
between men with and without CHD (French-Belgium
Collaborative Group, 1982). The Health Examination Survey
(HES) which was administered from 1961-1962 in the United
States showed a significant connection between high demand
and low decision latitude and CHD (Karasek, Tores, Schwartz,
et al., 1982). This implies that the "Seyle" and "Canon"
response may indeed interact with blood pressure factors
alone because Caplan and others have shown no connection
between stress, personality and psychological strain and
serum cholesterol levels (Haynes et al., 1978).

Other Indicators of Coronary Heart Disease

It has been shown that elevated levels of cholesterol
are highly correlated to coronary heart disease risk
(Swanson, Pierpont, & Adicoff, 1981). On the other hand,
certain levels of high density lipoprotein (HDL) cholesterol
have shown an inverse relationship to coronary heart disease
(Fye & Stanton, 1981). Elevated levels of HDL seem to
buffer the effects of coronary heart disease susceptibility.
In fact, healthy individuals with a family history of
coronary heart disease have been shown to have lower levels

28

of HDL than individuals without a family history of coronary
heart disease (Kalna, 1983).

Cortisol is yet another indicator of stress and
possibly an intervening variable of coronary heart disease.
It has been shown that increased stress activates the
release of elevated levels of cortisol which stimulates the
production of cholesterol (Kalna, 1983).

Summary

The cited studies referencing the link between stress
and coronary heart disease make it clear that stress places
a number of physiological factors in motion which perhaps
may help to promote coronary heart disease. However, the
degree to which they play and their interaction among each
other is still unclear. There is no rule or set of rules
which outlines the ingredients of stress-related coronary
heart disease. Additionally, neither is there an approved
prescription for its cure.

Of the factors discussed, social arrangement is
regarded by a number of investigators as a key element in
buffering the effects of stress and strain. Without this
buffer, the conditions which characterize CHD tendencies
seem more easily provoked. Group participation, friendship,
trust, cooperation and mutual respect all can act as
examples of buffers to both stress and strain caused by the
work environment. However, even though these examples of

29

social arrangement buffers have been shown to be less

prevalent in individuals with CHD, the operation of each

buffer is not understood clearly. It is questionable

whether they act alone or interactively with intervening

mechanisms that promoted the development of increased HDL

levels, for example. Similarly, the intensity which these

buffers exhibit is unknown as well. Each individual because

of his or her physiological or psychological nature exhibits

different buffer combinations during reactions to stress.

As a result, to draw similarities among individuals in this

particular area is inappropriate.

Individual differences seem as if they should

characterize CHD susceptability, but they do not in a

complete sense. Haynes and Feinleib (1982) help describe

the common individual characteristics such as Type A and B

Prone behavior that when activated elicit certain

undesirable responses. However, they were unable to derive

characteristic models that would describe more closely the

links between Type A individuals and CHD prevalency.

In general, CHD was found to be more prevalent in lower

decision latitude jobs where job demand and serum

cholesterol levels were lower. Thus, CHD may be independent

of positional status if it could be shown that one or more

intervening variables do not exist. The concept of coping

and its relationship to the "Seyle" and "Canon" responses

may just be one of the intervening variables. Lower

decision latitude jobs seem to require a greater amount of
individual coping. Those who exhibit few to none of the
coping tendencies seem likely to exhibit the "Seyle" and
"Canon" excitatory response more frequently. As a
consequence, CHD risk may become enhanced.

> The saber-toothed tiger is long gone, but the modern
> jungle is no less perilous. The sense of panic over
> a deadline, a tight plane connection, a reckless
> driver on one's tail are the new beasts that can set
> the heart racing, the teeth on edge, the sweat
> streaming. These responses may have served our
> ancestors well; that extra burst of adrenaline got
> their muscles primed, their attention focused and
> their nerves ready for a sudden 'fight-or-flight.'
> But try doing either one in today's traffic jams or
> boardrooms. 'The fight-or-flight emergency response
> is inappropriate for today's stresses' (Wallis,
> 1983).

Research Objectives

This thesis effort will investigate the impact of
stressful life events experienced and reported by Department
of Defense members on organizational behavior phenomena.
Additionally, the impact of stressful life events on
physiological and psychological predictors of CHD measured
from the same Department of Defense members will be
investigated.

Organizations need to better understand the possible
effects of stressful life events on employee health
attitudes and ultimately, retention. In order to combat
competition in today's dynamic environment and harness the

31

rising costs of productivity, industry at large needs to research its vital component, the employee. The loss of employees for one reason or another can degrade the operational effectiveness of _any_ organization or even prevent an organization from fully meeting its objectives.

The specific objectives of this thesis effort are to investigate the relationship between stressful life events and the following organizational phenomena: perceived on-the-job stress, job satisfaction, and intent to remain. Another variable investigated as possibly related to stressful life events was perceived off-the-job stress. Additionally, two predictors of Coronary Heart Disease were investigated for their relationship to stressful life events—Type A behavior characteristics, and the ratio of total blood cholesterol to high density lipoprotein cholesterol. These relationships have been determined through using statistical techniques described in Chapter III of this thesis. The statistical techniques have been enhanced through the use of the Air Force Institute of Technology computer resources. Additionally, as evidenced in this chapter, background information has been gathered in the form of a Literature Review to document the extent of knowledge of the academic and research community in the area of stress, stressful life events, and their effects.

Research Questions

The specific research questions investigated by this thesis effort are as follows:

A. How do major stressful life events correlate with perceived off-the-job stress?

B. How do major stressful life events correlate with perceived on-the-job stress?

C. How do major stressful life events correlate with the ratio of total blood cholesterol to high density lipoprotein (HDL) cholesterol?

D. How do major stressful life events correlate with job satisfaction?

E. How do major stressful life events correlate with intent to remain/quit?

F. How do major stressful life events correlate with Type A behavior (characterized by a sense of competitiveness, time-urgency, and aggressiveness) patterns?

III. Methodology

The purpose of this research is to examine the degree
of correlation among major stressful life events and 1)
perceived on-the-job stress, 2) perceived off-the-job
stress, 3) job satisfaction, 4) intent to remain/quit, 5)
high density lipoproteins and cholesterol levels in the
blood and 6) Type A behavior.

Sample Population

The referenced data was collected from DOD employees in
attendance at stress seminars given by the Organizational
Sciences Department of the Air Force Institute of
Technology. The sample size attempted to cover a cross
section of DOD employees and included 443 participants who
actually completed questionnaires. The group was later
reduced to seventy-six individuals who completed the 1)
SAP-2, 2) Life Events Survey and 3) blood tests. Of these
76 individuals, twenty-four percent were supervisors and the
remaining percentage were not supervisors. TABLE 1
identifies the geographical locations which were
represented.

34

TABLE III-1

Geographical Regions Represented By Participants

LOCATION
Brooks AFB. Texas
Champus. Denver. Colorado
Langley AFB. Virginia
Metropolitan Hospital. San Antonio. Texas
Randolph AFB. Texas
Wilford Hall. Dental Department. Lackland AFB. Texas
Wright Patterson AFB, Ohio

The ages of the participants ranged from 26 to 61 with an average of 39. Of the 76 participants, three had been earlier diagnosed as having either coronary heart disease or arterial-related disease. Appendix A further describes the characteristics of the 76 participants.

Data Collection

The Stress Assessment Package (SAP), developed by the AFIT faculty, was later modified (SAP-2) to include personal stress level measurement and other factors believed to relate to stress and coronary heart disease.

The SAP-2 includes 160 questions divided into 13 sections:

TABLE III-2

Cross Section of Questions

Section Title	Number of Questions
Personal Beliefs (Locus of Control)	14
Personal Attributes	15
Perceived Productivity	4
Job Inventory	30
Supervisor Inventory	15
Organizational Climate Inventory	17
Job Satisfaction	7
Assertiveness Inventory	5
Social Environment Inventory	8
Perceived Stress	10
Family Inventory	5
Food Consumption Inventory	5
Background and Demographic Information	25

The Life Events Survey (LES), divided into major, minor
and continuous stressful life event categories, allowed the
participants to respond with their perception of positive or
negative life events and the frequency of the life event.

The blood samples simply identified the cholesterol.
HDL cholesterol and cortisol status of each individual.

Data Manipulation

The purpose of the statitstical tests of this thesis
effort is to determine the relationship between major
stressful life events and three categories of independent
variables measured by the SAP-2 (organizational behavior,
personality characteristics, and physiological predictors of

36

coronary heart disease).

Life Events Survey (LES) Data

The data from the Life Events Survey consisted of a
variety of quantitative and qualitative measures of major,
minor, and continuous life events. These measures include
life event occurrence (except for continuous events),
perception of the life event (positive or negative), and the
perceived significance of the life event.

The occurrence of the life event was a dichotomous
variable with (1) indicating event occurrence and (0)
indicating event non-occurrence. Another dichotomous
variable was life event perception with (1) indicating the
subject perceiving the event as negative and (2) indicating
a positive perception. The frequency of occurrence variable
represented the number of times the subject experienced the
major life event in the past two years (two weeks for minor
life events). This variable ranged in value from 0 to 99.
Finally, the significance of the life event was coded by the
subject in a seven point ordinal scale which measures how
stressful the subject perceived the life event to be.
Values for the life event significance variable ra..ged from
1 (insignificant) to 7 (very significant).

SAP-2 Data

In addition to the ratio of total cholesterol to HDL cholesterol (taken from the blood samples), a number of other independent variables in the SAP-2 were analyzed to see how they correlated with the independent variables of the Life Events Survey. Specifically, the variables from the SAP-2 used in this thesis effort were perceived off-the-job stress, perceived on-the-job stress, intent to remain, job satisfaction, and Type A behavior.

The questions relating to the two perceived stress variables were both located in the Perceived Stress section of the SAP-2 survey. Perceived off-the-job stress was measured by question 120 and perceived on-the-job stress was measured by question 118. Both questions had seven Likert-type responses ranging from Strongly Disagree (1) to Strongly Agree (7). Another variable with Likert type responses was intent to remain. The question measuring intent to remain, SAP-2 question 84, also had possible responses ranging from Strongly Disagree (1) to Strongly Agree (7). It should be noted that an eighth response, Not Applicable (0), was also possible for the questions measuring the SAP-2 variables used in this thesis effort.

A fifth variable investigated for its correlation with stressful life events as measured by the Life Events Survey was Job Satisfaction. The Job Satisfaction variable was measured in the SAP-2 by questions 96 through 102. Subjects

38

coded their satisfaction for seven job variables using a
Likert-type numbering of 1 (Extremely dissatisfied) through
7 (Extremely satisfied). Also measured by a number of
questions was the final SAP-2 variable, Type A behavior.
Questions 15 through 29 in the SAP-2 all measured Type A
behavior characteristics. Of these questions, questions 15
through 20 used choices of five word pictures and questions
21 chrough 29 used a Likert-type range of disagreeing
through agreeing. Because the word picture questions had a
higher potential for error due to individual differences in
word picture interpretation, the Type A characteristics were
measured in this thesis effort by only the Likert-type
questions (21 through 29).

Transformed Data

The original data collected in conjunction with the LES
contained data on major, minor, and continuous life events.
Because of the variety of dependent variables used in this
thesis effort, only major life events were used in
statistical analyses. These 58 major life events were
factor analyzed to determine the best combination for
further statistical testing. The results of this factor
analysis are detailed in Chapter IV.

The dependent variables measured with single SAP-2
questions (perceived on-the-job stress, perceived
off-the-job stress, and intent to remain) required no

39

transformation. The remaining two dependent variables, job satisfaction and Type A behavior, were both factor analyzed to determine the optimal variable groupings for regression with the independent variables. Chapter IV explains the results of these factor analyses. The resultant groupings were recoded by summing the responses for each variable in the group, then dividing the result by the number of variables contained in that group.

Data Analyses

Although the statistical techniques to be used for this research effort have not yet been finalized, the number of dependent variables and independent variables used in the research questions previously explained indicate that certain techniques will be required for future statistical analyses. For example, SPSS PEARSON CORR will be used to show any linear relationships between the dependent and independent variables. More detailed predictive relationships will be investigated using the SPSS REGRESSION multiple regression tool. The details of assumptions and techniques required to successfully apply these techniques will be discussed in Chapter IV.

Summary

The intent of this thesis effort was to find the correlation between stressful life events (measured in the

40

Life Events Survey by the occurrence, frequency of occurrence, perception, and significance variables), and a variety of dependent variables measured by the SAP-2 (including perceived on-the-job stress, perceived off-the-job stress, intent to remain, job satisfaction, Type A behavioral characteristics, and -atio of the total blood cholestrol to HDL cholestrol). The results of the statistical techniques applied to the data and variables described in this chapter will be outlined in the following chapter.

IV. Analysis and Results

This chapter will outline the statistical tests
employed to answer the research questions identified in
Chapter 2. Factor analyses, reliability tests, and multiple
regression techniques as described in the SPSS manual will
be summarized for each research question explored. The
variables used to perform the statistical tests used in this
thesis are as follows:

TABLE IV-1

Independent and Dependent Variables

Independent Variable	Dependent Variables
Major SLE Significance	1) Perceived off-the-job stress
	2) Perceived on-the-job stress
	3) Job Satisfaction
	4) Intent to Remain
	5) Total Blood Cholesterol to HDL Cholesterol Ratio
	6) Type A Behavior Characteristics

A factor analysis was performed on all of the Major
Life Events in the Life Events Survey (58 life events). The
initial factor analysis of all 58 variables exceeded the
Harris Computer CPU time contraint. To obtain a better
level of significance for the factor analysis, two groups of

Major Life Events were factor analyzed. The first group
contained the 18 most frequently experienced life events
(TABLE IV-2), and the second group included the 10 most
frequently experienced life events.

TABLE IV-2

19 Most Frequently Reported Major Life Events in Order of the
Number of Cases: Positive Versus Negative Perception, and
Extent of Perceived Stress, from Stressful Life Events:
Their Relationships with Coronary Heart Disease by
Sparkman, 1983. Unpublished master's thesis, LSSR
22-83, AFIT/LS WPAFB, OH AD A134278.

| Life | Number | Perception | | Extent of Perceived stress | | | | | | |
| Event | of | of Stress | | Insignificant to Very Significant | | | | | | |
	Cases	Pos	Neg	1	2	3	4	5	6	7
38	61	57	4	9	9	10	12	9	7	6
22	56	31	25	4	4	7	12	10	7	7
20	51	32	18	1	1	3	18	11	9	8
51	50	42	8	2	5	11	17	6	4	5
19	49	34	14	1	2	2	12	11	9	11
34	46	33	13	7	6	5	11	12	1	4
1	45	15	30	4	7	7	14	7	4	2
25	42	27	15	5	6	8	13	6	2	1
26	40	8	32	2	2	4	3	9	8	12
32	40	31	9	3	5	6	11	9	5	1
53	39	37	2	4	6	5	10	7	3	7
21	38	30	8	6	2	3	10	5	8	4
30	36	30	6	1	2	5	11	8	3	6
40	34	17	16	3	3	3	9	9	4	3
58	33	13	20	2	2	7	13	6	1	2
46	32	3	28	0	0	2	9	9	6	6
54	32	24	8	1	2	3	13	5	5	3
27	30	5	25	2	1	4	7	6	4	6
33	27	27	0	0	1	6	7	4	3	6

Multiple factor analysis iterations of each group
failed to reveal an acceptable grouping of life events for
further statistical tests. Because there is a significant

43

break between the 7th and the 8th most frequently

experienced life event, the top 7 life events shown in TABLE

IV-3 in numerical order were chosen as the more appropriate

grouping of life events for the regression independent

variables. The aspect of the Major Life Event data chosen

for the regression was the extent of life event

stressfulness reported by the subject.

TABLE IV-3

Brief Description of Life Events used for Analysis

Life Event	Description
SLE1	Family separation
SLE19	Changing Jobs
SLE20	Change in Job Responsibility
SLE22	Change of Job Supervisor
SLE34	Change in Income
SLE38	Vacation
SLE51	Activities associated with Holidays

A factor analysis was also performed on two dependent

variables, Type A behavior characteristics and Job

Satisfaction. Three factors were found to be the optimal

variable groupings for Type A behavior characteristics.

TABLE IV-4 shows that the three factors (labeled below as

Intensity, Patience, and Achievement) had reliabilities

44

(Cronbach alpha values) of 0.74, 0.65, and 0.65,
respectively. The two factors that resulted from the
analysis of the job satisfaction variables could not be
fitted to any descriptive labels. Of the two factors
(JSATF1 and JSATF2), only JSATF1 allowed computation of a
reliability (0.84). The reliability for JSATF2 was not
computed because it contained only one variable.

TABLE IV-4

Reliabilities for Dependent Variables

Variables	N of Items	Mean*	Cronbach alpha
INTENS	5	4.22	0.74
PATIEN	2	4.96	0.65
ACHIEV	2	4.22	0.65
JSATF1	5	5.20	0.84
JSATF2	1	N/A	N/A
* cumulative mean divided by number of cases			

The composition of the factors described above is
summarized in TABLE IV-5. Each question number corresponds
to the question number found in the SAP-2 Survey (Appendix
B).

The linear correlations between the independent
variables and the dependent variables were explored by using
the Pearson product-moment correlations. The predictive

45

power of the model was then measured by multiple regression.
For all analyses, an acceptable alpha value of 0.05 was used
to determine statistical significance. Listwise deletion of
cases with missing data values and stepwise regression were
both incorporated in each regression performed on the data.

TABLE IV-5

Summary of Questions Taken from SAP-2 Survey

		TYPE A BEHAVIOR FACTORS			JOB SATISFACTION FACTORS	
		INTENSITY	PATIENCE	ACHIEVEMENT	JSATF1	JSATF2
Q		23	28	21	97	96
U		24	29	22	98	
E		25			99	
S		26			101	
T		27			102	
I						
O						
N						
S						

Research Question 1

How do major stressful life events correlate with
perceived off-the-job stress?

The Pearson correlation analysis revealed that none of
the seven SLE's were significantly related to perceived

46

off-the-job stress. The test indicated that SLE34 had the highest correlation with a significance of 0.26 (not significant).

The change in R-squared of the multiple regression analysis was consistent with the Pearson results, showing that no variables significantly contributed toward predicting variance in off-the-job stress. The highest change in R-squared occurred with SLE34 with a 0.10 level of significance.

This information is summarized in TABLE IV-5.

Research Question 2

How do major stressful life events correlate with perceived on-the-job stress?

Again, none of the seven SLE's were shown by the Pearson correlation test to be related to perceived on-the-job stress. SLE19 exhibited the highest correlation with a significance of 0.18.

The R-squared change in the multiple regression analysis was consistent with the Pearson analysis results. No variables contributed significantly toward predicting variance in on-the-job stress. The highest change in R-squared occurred with SLE19 with a significance level of 0.11.

This information is summarized in TABLE IV-6.

Research Question 3

How do major stressful life events correlate with the ratio of total blood cholesterol to high density lipoprotein cholesterol?

The Pearson correlation analysis showed that SLE38 (Vacation) exhibited the highest correlation and was significantly related to the ratio variable (0.05 level of significance). Predictably, the occurrence of Vacations correlated negatively with the ratio of total blood cholesterol to HDL.

The multiple regression analysis also revealed that SLE38 contributed significantly to the variance of the ratio variable. The regression level of significance was 0.04.

This information is summarized in TABLE IV-6.

48

TABLE IV-6

Multiple Regression & Pearson Correlation Values for SLE's
and Dependent Variables ONSTRS. OFSTRS. & RATIO

	Dependent Variables								
	ONSTRS			OFSTRS			RATIO		
Predictor	r	beta	R Squared Change	r	beta	R Squared Change	r	beta	r Squared Change
SLE1	-.02	-.15	.00	.01	.20	.00	.06	.26	.00
SLE19	.14	.17	.03	.01	.20	.00	.03	.26	.00
SLE20	.09	.16	.00	.03	.19	.00	.03	.26	.04
SLE22	.06	.15	.00	.02	.19	.01.	.02	.26	.00
SLE34	.01	.15	.00	.12	.17	.03	.05	.26	.00
SLE38	-.07	.18	.01	.07	.20	.00	.21*	-.21	.04*
SLE 51	.00	.15	.00	.04	.15	.00	.10	.25	.01*
* p < .05									

Research Question 4

How do major stressful life events correlate with job
satisfaction?

SLE22 (change of job supervisor) was by the Pearson
correlation to have the greatest correlation (though
negative) with the first Job Satisfaction factor (JSATF1)
with a 0.03 level of significance. No significant
correlations for the second job satisfaction factor were
found.

The multiple regression analysis also showed

significance only for the first factor (JSATF1). SLE19 (changing jobs) exhibited a significant contribution (0.02 significance) to the model's predictive power. SLE22 (change in job supervisor) also exhibited a respectable level of significane (0.03).

This information is summarized in TABLE IV-7.

Research Question 5

How do major stressful life events correlate with intent to remain/quit?

The Pearson correlation analysis again revealed that no SLE's were significantly related to Intent to remain/quit. The highest correlation found by the test was SLE20 with a 0.17 level of significance.

The multiple regression analysis also failed to reveal a variable with significant power. The SLE causing the highest change in R-squared was SLE19 with its associated 0.08 level of significance.

This information is summarized in TABLE IV-7.

TABLE IV-7

Multiple Regression & Pearson Correlation Values for
SLE's & Dependent Variables JSATF1, JSATF2 & INTENT

	Dependent Variables								
	JSATF1			JSATF2			INTENT		
Predictor	r	beta	R Squared Change	r	beta	R Squared Change	r	beta	R Squared Change
SLE1	-.16	-.19	.01	-.04	-.04	.00	-.05	-.22	.03
SLE19	-.19	-.27	.06*	-.05	-.13	.00	.12	-.22	.03
SLE20	-.16	-.20	.02	.08	-.19	.01	-.15	-.15	.01
SLE22	-.22*	-.22	.05*	-.06	-.14	.00	-.18	-.23	.02
SLE34	.01	-.19	.00	-.19	-.18	.03	.11	-.27	.02
SLE38	-.02	-.20	.00	-.17	-.16	.01	-.06	-.24	.02
SLE51	-.10	-.19	.00	-.01	-.13	.00	.14	-.25	.02*

* p < .05

Research Question 6

How do major stressful life events correlate with
Type A behavior (characterized by a sense of
competitiveness, time-urgency, and aggressiveness)
patterns?

Of the three factors used for the Type A behavior
regression, (Intensity, Achievement, and Patience) only the
factor Intensity showed any significant relationship with
any of the seven SLE's. SLE22 (Change of job supervisor)

51

showed the highest correlation (positive) with Intensity at
a .05 level of significance.

Consistent with the above results, the multiple
regression analysis showed significant variables only for
the intensity factor. SLE20 (change in job responsibility)
had the highest level of significance (0.02). The 0.05
level of significance for SLE22 (change in job supervisor)
also contributed significantly to the predictive power of
the model.

This information is summarized in TABLE IV-8.

TABLE IV-8

Multiple Regression & Pearson Correlation Values for
SLE s and Dependent Type A Behavior Variables
INTENSITY, ACHIEVEMENT & PATIENCE

Predictor	Dependent Variables								
	INTENSITY			ACHIEVEMENT			PATIENCE		
	r	beta	R Squared Change	r	beta	R Squared Change	r	beta	R Squared Change
SLE1	-.10	.35	.00	.03	.23	.00	.05	.16	.00
SLE19	.12	.33	.03	.12	.23	.00	.14	.16	.00
SLE20	-.12	.34	.06*	.17	.17	.03	.13	.18	.01
SLE22	.21*	.21	.04*	.01	.24	.01	-.11	.15	.00
SLE34	.08	.35	.00	.07	.25	.01	.19	.19	.04
SLE38	-.06	.35	.01	.03	.23	.00	.07	.16	.00
SLE51	-.13	.33	.01	-.08	.19	.01	-.05	.16	.00*
* p < .05									

52

Summary

The following table summarizes the SLE's that exhibited significant correlations for some of the variable which were investigated in the analyses discussed in this chapter:

TABLE IV-9

Summary of SLE s Exhibiting Significant Correlations

VARIABLE	TEST	
	PEARSON CORRELATION	MULTIPLE REGRESSION
JOB SATISFACTION	SLE19,SLE22	* SLE22
RATIO	SLE38	* SLE38
TYPE A	SLE20,SLE22	SLE22

* denotes negative correlation

V. Conclusions and Recommendations for Future Research

Conclusions

This research effort was directed toward identifying the correlation between major stressful life event variables (independent variables) and 1) perceived off-the-job stress, 2) perceived on-the-job stress, 3) job satisfaction, 4) intent to remain/quit, 5) ratio of total blood cholesterol to HDL cholesterol, and 6) Type A behavior characteristics.

The analysis identified significant relationships between some of the independent and dependent variables. The Pearson correlation coefficient test indicated a correlation between job satisfaction and SLE22 (change of job supervisor), between ratio and SLE38 (Vacation), and between Type A and SLE22 (change of job supervisor).

For job satisfaction, the multiple regression test brought in SLE19 (Changing jobs) as a significant variable in addition to SLE22 (change of job supervisor) which was shown as significant by the Pearson test. The Pearson test significance value for SLE19 (Changing jobs) was close (.06) to the threshold for significance, but not within the parameters set for this thesis. Both SLE19 and SLE22 were shown by the Pearson test to be negatively correlated with job satisfaction. Therefore, the two tests have provided fairly consistent results.

The above results are generally consistent with those

of Sarason and Johnson (1979) who found that stressful life events were significantly related to decreased job satisfaction. Another possible confirmation of the data was obtained by Pardine et al (1981) who discovered that on-the-job stress, especially when coupled with off-the-job stress, related positively with job dissatisfaction and depressed mood.

For the dependent variable Ratio, both the Pearson and multiple regression tests exhibited a consistent relationship with SLE38 (Vacation). The Pearson test showed that this relationship was negative. Although the literature does not directly address such a relationship, the results here might suggest that the presence of Vacations can buffer or reduce the stress effects within the individual. For example, occasional vacations can relax the individual psychologically by removing him or her from the source of stress. Such a removal can facilitate the rebuilding of the psychological strengths needed to cope with stress.

For the Type A behavior characteristics variable, the Pearson test indicated a correlation with SLE22 (Change of job supervisor) while the regression test indicated a relationshhip with SLE20 (Change in job) and SLE22.

The relationship found between SLE22 (change of job supervisor) and Type A behavior is consistent with the findings of Davidson and Cooper (1980) who reported

perceived loss of control as a source of organizational

stress. Davidson and Cooper also found change in work

environment (which is similar to change in jobs) to be

another source of stress in the organization.

Future Research

Because of the necessity of narrowing down the 58 Major

Life Events to the 7 most frequently reported life events,

many potentially serious life events were not included in

the analyses. Exploring the correlation of such life events

with the organizational behavior dependent variables seems

to be an especially intriguing effort. For example,

although this thesis effort has found two major life events

to be negatively correlated with job satisfaction, no

attempt was made to distinguish between positive and

negative life events. Such a distinction, however, appears

relevant in light of Sarason and Johnson's finding that

negative stressful life events were significantly related to

decreased job satisfacion (Sarason & Johnson, 1979). An

enlarged sample size, though, would be required so that a

larger number of life events could be used as independent

variables without sacrificing statistical significance.

The relationship between stressful life events and

intent to remain, also deserves further research. A larger

sample size would be especially warranted in this case

because of the usually low percentage of employees

simultaneously considering quitting their jobs. An

increased sample size would also allow the inclusion of more

stressful life events as indpendent variables. Although

this thesis found no correlation between the seven life

events and intent to remain, no similar correlations exist

in literature to compare with this finding. However, the

similar correlation found between stressful life events and

withdrawal behavior by Martin and Schermerhorn (1983) seems

to indicate the relevance of exploring the relationship

between stressful life events and intent to remain.

The dependent variable perceived off-the-job stress was

not found to have a significant correlation with any of the

seven life events used as independent variables. Another

alternative would be to treat perceived off-the-job stress

as an independent variable and explore its relationship with

job satisfaction, perceived on-the-job stresss, and intent

to remain. Because of the literature's emphasis on the role

of the individual's perception of stress in understanding

stress effects (Byrne & Whyte, 1980; Redfield & Stone, 1979)

and the recognition of the potential effects of off-the-job

stress (Bhagat, 1983), this exploration appears to be

justified by current literature.

Finally, the relationship between coronary heart

disease and the level of LDL (low density lipoprotein)

cholesterol also deserves further exploration in light of

the research performed by Brown and Goldstein (Wallis,

1984). The results of their research indicate that LDL may contribute significantly to the onset of coronary heart disease. Within the realm of this thesis effort, it is possible that the level of LDL cholesterol affected the relationship between certain stressful life events and the ratio variable. However, in the blood samples used for this thesis, no LDL cholesterol level was analyzed.

Final Remarks

The study of stress is especially relevant to any organization because of the increased national awareness of the harmful effects of continued on-the-job or off-the-job stress. Because of frequent personnel rotations, geographical moves, and tensions caused by both on-the-job and off-the-job effects of military life, understanding the nature and sources of stress is essential for understanding its possible effects on military members.

Appendix A
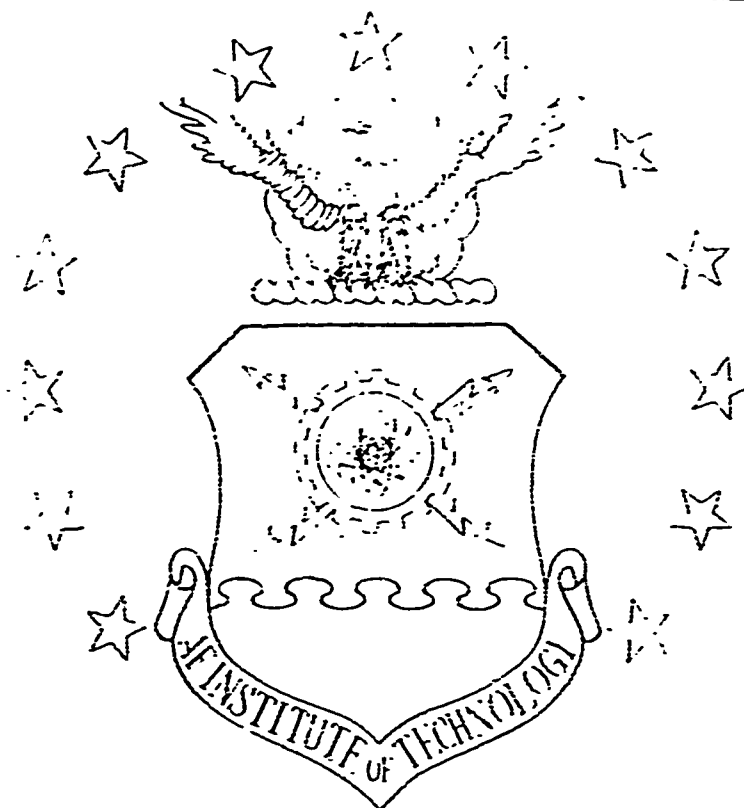
LIFE EVENTS SURVEY

DEPARTMENT OF THE AIR FORCE

AIR UNIVERSITY (ATC)

AIR FORCE INSTITUTE OF TECHNOLOGY

Wright Patterson Air Force Base. Ohio

PRIVACY STATEMENT

In accordance with paragraph 8, AFR 12-35, the following information is provided as required by the Privacy Act of 1974.

    a. Authority

        (1) 5 U.S.C. 301, Departmental Regulations, and/or

        (2) 10 U.S.C. 8012, <u>Secretary of the Air Force, Powers, Duties, Delegation by Compensation</u>, and/or

        (3) DOD Instruction 1100.13, 17 Apr 68, <u>Surveys of Department of Defense Personnel</u>, and/or

        (4) AFR 30-23, 22 Sep 76, <u>Air Force Personnel Survey Program</u>.

    b. Principal Purpose. The survey is being conducted to collect information to be used in research aimed at illuminating and providing inputs to the solution of problems of interest to the Air Force and/or DOD.

    c. Routine Uses. The survey data will be converted to information for use in research of management related problems. Results of the research, based on the data provided, will be included in written master's theses and may also be included in published articles, reports, or text. Distribution of the results of the research, based on the survey data, whether in written form or presented orally. will be unlimited.

    d. Participation in this survey is entirely voluntary.

    e. No adverse action of any kind may be taken against any individual who elects not to participate in any or all of this survey.

GENERAL INFORMATION AND INSTRUCTIONS

1. The Life Events Survey (LES) is a tool designed to identify the events in your life that you find stressful and determine the extent of personal stress resulting from these events.

2. The LES lists eighty-three (83) life events, which are believed to cause personal stress. Personal stress is defined here as your physical and emotional responses, both immediate and delayed, to the conditions surrounding a life event.

3. The life events are divided into three sections: major life events, minor life events, and continuous life events. For each life event which has happened or is happening to you, please provide the following information:

    a. Indicate whether it was a positive (P) or negative (N) experience.

    b. Except for the continuous life events, indicate how many times the major and minor life events have happened to you during the specified time period.

    c. Indicate to what extent the life event was or is stressful for you. The extent of stress is measured by the following seven (7) point scale:

1 = insignificant	5 = fairly large
2 = very little	6 = large
3 = little	7 = very significant
4 = moderate	

4. Each of us respond to life events differently because of differences in our personalities, our abilities to cope, and our experience with handling a particular life event. Therefore, it is important that you answer all items honestly. This is the only way an accurate evaluation can be made of life events and the stress they cause.

5. Your individual responses will be held in the strictest confidence, and will not be provided to any organization or persons. Only personnel directly involved in this research will have access to your completed LES.

READ EACH "MAJOR" LIFE EVENT. HAS IT HAPPENED TO YOU?

If NO --- read the next LIFE EVENT.			If YES --- how many times in the last 2 YEARS or so?						
If YES --- was it a POSITIVE (P) or NEGATIVE (N) experience for you?			If YES --- to what extent was it stressful for you? (circle one) 1= insignificant 4= moderate 6= large 2= very little 5= fairly large 7= very 3= little significant						

EXAMPLE:

Getting injured	(N)	2	1	2	3	4	⑤	6	7

No.	Life Event	P/N	Times	1	2	3	4	5	6	7
1.	Family separation (other than marital separation)	( )	___	1	2	3	4	5	6	7
2.	Change in number of family get-togethers.	( )	___	1	2	3	4	5	6	7
3.	Birth of a child.	( )	___	1	2	3	4	5	6	7
4.	Adoption of a child.	( )	___	1	2	3	4	5	6	7
5.	Addition of a non-immediate family dependent to your home.	( )	___	1	2	3	4	5	6	7
6.	Offspring leaves home.	( )	___	1	2	3	4	5	6	7
7.	Pregnancy	( )	___	1	2	3	4	5	6	7
8.	Loss experienced when close-one moves away.	( )	___	1	2	3	4	5	6	7
9.	Getting married.	( )	___	1	2	3	4	5	6	7
10.	Marriage of a close-one.	( )	___	1	2	3	4	5	6	7
11.	Change in marital relationship.	( )	___	1	2	3	4	5	6	7
12.	Getting divorced.	( )	___	1	2	3	4	5	6	7
13.	Divorce of a close-one.	( )	___	1	2	3	4	5	6	7
14.	Marital separation.	( )	___	1	2	3	4	5	6	7
15.	Marital reconciliation.	( )	___	1	2	3	4	5	6	7
16.	Sex difficulty.	( )	___	1	2	3	4	5	5	7
17.	Spouse is unfaithful.	( )	___	1	2	3	4	5	6	7
18.	Extramarital affair.	( )	___	1	2	3	4	5	6	7
19.	Changing jobs.	( )	___	1	2	3	4	5	6	7
20.	Change in job responsibility.	( )	___	1	2	3	4	5	6	7
21.	Change of job position (promotion/demotion).	( )	___	1	2	3	4	5	6	7
22.	Change of job supervisor.	( )	___	1	2	3	4	5	6	7

READ EACH "MAJOR" LIFE EVENT.　HAS IT HAPPENED TO YOU?

If　NO --- read the next LIFE EVENT.			If　YES --- how many times in the last 2 YEARS or so?						

If　YES --- was it a POSITIVE (P) or　NEGATIVE (N) experience for you?			If　YES --- to what extent was it stressful for you? (circle one)						
			1= insignificant　　4= moderate　　6= large 2= very little　　　5= fairly large　7= very 3= little　　　　　　　　　　　　significant						
23. Retirement.	( )	___	1	2	3	4	5	6	7
24. Change careers.	( )	___	1	2	3	4	5	6	7
25. Experience job inspection/ evaluation.	( )	___	1	2	3	4	5	6	7
26. Confrontation with supervisor.	( )	___	1	2	3	4	5	6	7
27. Confrontation with co-workers.	( )	___	1	2	3	4	5	6	7
28. Change of employment status.	( )	___	1	2	3	4	5	6	7
29. Change in employment status of spouse.	( )	___	1	2	3	4	5	6	7
30. Buying a house.	( )	___	1	2	3	4	5	6	7
31. Selling a house.	( )	___	1	2	3	4	5	6	7
32. Making other large financial investments.	( )	___	1	2	3	4	5	6	7
33. Experience a financial difficulty.	( )	___	1	2	3	4	5	6	7
34. Change in income.	( )	___	1	2	3	4	5	6	7
35. Experience a tax problem.	( )	___	1	2	3	4	5	6	7
36. Change in commitment to church.	( )	___	1	2	3	4	5	6	7
37. Change in religious beliefs.	( )	___	1	2	3	4	5	6	7
38. Vacation.	( )	___	1	2	3	4	5	6	7
39. Change in recreation routine.	( )	___	1	2	3	4	5	6	7
40. Required to move.	( )	___	1	2	3	4	5	6	7
41. House damaged.	( )	___	1	2	3	4	5	6	7
42. Change in relationship with a close-one.	( )	___	1	2	3	4	5	6	7
43. Counseling employees.	( )	___	1	2	3	4	5	6	7
44. Death of a close-one.	( )	___	1	2	3	4	5	6	7
45. Acute personal medical problem.	( )	___	1	2	3	4	5	6	7
46. Acute medical problem of a close-one.	( )	___	1	2	3	4	5	6	7

READ EACH "MAJOR" LIFE EVENT.   HAS IT HAPPENED TO YOU?

If NO --- read the next LIFE EVENT.		If YES --- how many times in the last 2 YEARS or so?						
If YES --- was it a POSITIVE (P) or NEGATIVE (N) experience for you?		If YES --- to what extent was it stressful for you? (circle one) 1=insignificant 4=moderate 6=large 2=very little 5=fairly large 7=very 3=little significant						
47. Change in social participation.	( ) ___	1	2	3	4	5	6	7
48. Victim of a crime.	( ) ___	1	2	3	4	5	6	7
49. Close-one is a victim of a crime.	( ) ___	1	2	3	4	5	6	7
50. Socializing with high officials.	( ) ___	1	2	3	4	5	6	7
51. Activities associated with holidays.	( ) ___	1	2	3	4	5	6	7
52. Legal problems.	( ) ___	1	2	3	4	5	6	7
53. Outstanding personal achievement.	( ) ___	1	2	3	4	5	6	7
54. Starting school/training.	( ) ___	1	2	3	4	5	6	7
55. Graduating from school/ training.	( ) ___	1	2	3	4	5	6	7
56. Close-one is starting school/training.	( ) ___	1	2	3	4	5	6	7
57. Close-one is graduating from school/training.	( ) ___	1	2	3	4	5	6	7
58. Academic efforts (exam/ paper).	( ) ___	1	2	3	4	5	6	7

READ EACH "MINOR" LIFE EVENT. HAS IT HAPPENED TO YOU?

If NO --- read the next LIFE EVENT.			If YES --- how many times in the last 2 WEEKS or so?						
If YES --- was it a POSITIVE (P) or NEGATIVE (N) experience for you?			If YES --- to what extent was it stressful for you? (circle one) 1= insignificant 4= moderate 6= large 2= very little 5= fairly large 7= very 3= little significant						

EXAMPLE:

Getting injured	(N)	_2_	1	2	3	4	5	(6)	7

59. Briefing superiors.	( )	___	1	2	3	4	5	6	7
60. Job requires much traveling.	( )	___	1	2	3	4	5	6	7
61. Car problems.	( )	___	1	2	3	4	5	6	7
62. Dealing with financial problems of a close-one.	( )	___	1	2	3	4	5	6	7
63. Home maintenance.	( )	___	1	2	3	4	5	6	7
64. Supervising peers.	( )	___	1	2	3	4	5	6	7
65. Driving in rush hour traffic.	( )	___	1	2	3	4	5	6	7
66. Change in daily routine.	( )	___	1	2	3	4	5	6	7
67. Frequent social obligations.	( )	___	1	2	3	4	5	6	7
68. Misplacing or losing things.	( )	___	1	2	3	4	5	6	7

READ EACH "CONTINUOUS" LIFE EVENT. IS IT HAPPENING TO YOU?

If NO --- read the next LIFE EVENT. I; YES --- is it a POSITIVE (P) or NEGATIVE (N) experience for you?		If YES --- to what extent is it stressful for you? 1= insignificant 4= moderate 6= large 2= very little 5= fairly large 7= very 3= little significant						
EXAMPLE:								
Office bickering.	(N)	1	2	3	4	5	⑥	7
69. Responsibility of being a parent.	( )	1	2	3	4	5	6	7
70. Family bickering.	( )	1	2	3	4	5	6	7
71. Responsibility of marriage.	( )	1	2	3	4	5	6	7
72. Uncomfortable job environment.	( )	1	2	3	4	5	6	7
73. Job responsibility and pressures	( )	1	2	3	4	5	6	7
74. Inability to accomplish job.	( )	1	2	3	4	5	6	7
75. Continuous financial problems.	( )	1	2	3	4	5	6	7
76. Continuous church responsibilities.	( )	1	2	3	4	5	6	7
77. Frequent recreation routine (daily workout).	( )	1	2	3	4	5	6	7
78. Chronic personal medical problem.	( )	1	2	3	4	5	6	7
79. Chronic medical problem of a close-one.	( )	1	2	3	4	5	6	7
80. Eating or drinking too much.	( )	1	2	3	4	5	6	7
81. Maintaining physical appearance/ self image.	( )	1	2	3	4	5	6	7
82. Maintaining life style.	( )	1	2	3	4	5	6	7
83. Pressures of attending school/ training.	( )	1	2	3	4	5	6	7

ADDITIONAL LIFE EVENTS

In the blanks provided below, list the major, minor, and continuous life
events, which you believe were not covered by the LES. In the spaces provided
please indicate the frequency of occurrence, and whether it was a positive (P)
or negative (N) experience.

EXAMPLE:

| Purchase of a pet | 5 | P |

LIFE EVENT	FREQUENCY	POS (P)/NEG (N)

SCN 81-115
STRESS ASSESSMENT PACKAGE
(Version 2)

The Stress Assessment Package (SAP) is a tool designed to aid in measuring
your personal stress level and determine some of the original components that
may contribute to stress.

You will find the terms work group, organization, and supervisor used exten-
sively as you complete this questionnaire. The term work group refers to a
group of individuals working for the same supervisor, while the term organiza-
tion refers to the overall organizational unit. For example, if your posi-
tion is within a section of a squadron then the squadron is your organization
and your section is your work group.

Using the answer sheet provided, please mark your responses with a number 2
pencil only. Make heavy black marks that completely fill the appropriate
space.

It is important that you answer all items honestly. This is the only way an
accurate stress assessment can be made.

Your individual responses will be held in the strictest confidence, and will
not be provided to any organization or persons. Only those directly involved
in this research will have access to your completed SAP.

In the information block labeled "your work group code,"
fill in the appropriate code provided by your survey
monitor and blacken the corresponding spaces.

EXAMPLE:
YOUR WORK
GROUP CODE

| | | 1 | 2 | 3 | 4 | 5 |

[>] [>] [>] [>] [>] [>] [>]

[=] [=] [=] [=] [=] [=] [=]

Follow the same procedure for the other blocks as they pertain to you. Fill
in yes or no for the supervisor block. If you are a supervisor, fill in your
subordinate's work group code, also given by the survey monitor. If you are
employed by the Department of Defense, fill in the "Base Unit" code and your
Air Force Specialty Code (AFSC).

In block 216, blacken the numbers corresponding to your
NORMAL Monday through Friday WAKE-UP TIME using a
24-HOUR CLOCK. For example, you normally get up at
1 p.m. for shift work. Using the 24-hour clock, you
would blacken in the numbers for 1300, one number per
column.

EXAMPLE:

216

[0] [0] ■ ■

■ [-] [-] [-]

[2] [2] [2] [2]

[~] ■ [~] [~]

PRIVACY STATEMENT

In accordance with paragraph 8, AFR 12-35, the following information is provided as required by the Privacy Act of 1974.

    a. Authority

        (1) 5 U.S.C. 301, Departmental Regulations, and/or

        (2) 10 U.S.C. 8012, S. retary of the Air Force, Powers, Duties, Delegation by Compensation, and/or

        (3) DOD Instruction 1100.13, 17 Apr 68, Surveys of Department of Defense Personnel, and/or

        (4) AFR 30-23, 22 Sep 76, Air Force Personnel Survey Program.

    b. Principal Purpose. The survey is being conducted to collect information to be used in research aimed at illuminating and providing inputs to the solution of problems of interest to the Air Force and/or DOD.

    c. Routine Uses. The survey data will be converted to information for use in research of management related problems. Results of the research, based on the data provided, will be included in written master's theses and may also be included in published articles, reports, or text. Distribution of the results of the research, based on the survey data, whether in written form or presented orally, will be unlimited.

    d. Participation in this survey is entirley voluntary.

    e. No adverse action of any kind may be taken against any individual who elects not to participate in any or all of this survey.

PART II

Indicate your agreement with the statement below using the following scale:

NA = Not Applicable   4 = Neither Agree nor Disagree
1 = Strongly Disagree   5 = Slightly Agree
2 = Moderately Disagree   6 = Moderately Agree
3 = Slightly Disagree   7 = Strongly Agree

10. What happens to me is usually because of my own doing.

11. I frequently feel that in dealing with life situations I might do just as well if I flipped a coin.

12. Generally speaking, there really is no such thing as luck.

13. Without the right breaks one cannot become effective as a manager.

14. Usually, individuals have misfortunes due to their own mistakes.

PERSONAL ATTRIBUTES

Instructions

The next set of questions is concerned with your personal attributes. Each item consists of five alternatives. Select the alternative that is the most descriptive of you as an individual. Please record your answer on the answer sheet.

15. 1 Winning is everything; my satisfaction comes from winning.
   2 I like winning any game or event, and am very disappointed when I lose.
   3 I like winning any game or event, and am somewhat disappointed when I lose.
   4 I like winning any game or event, but I equally enjoy the social interaction and participation.
   5 I enjoy the social interaction and participation that comes with a game or event, and losing does not bother me at all.

16. 1 I do my very best when I'm fighting a tight deadline.
   2 I seem to do my best work when I have a reasonable deadline to meet.
   3 I work equally well whether I have a deadline to meet or not.
   4 Although I perform adequately with a deadline to meet, I prefer to not meet a deadline.
   5 I do not like deadlines; I do my best work when I'm not hurried in any manner.

17. 1 I hate to wait on anything or anybody.
   2 I do not enjoy waiting but I will if I absolutely have to.
   3 Although I don't really enjoy waiting, I don't mind it if I don't have to wait too long.
   4 I don't mind waiting; there are many situations where one must wait.
   5 Waiting on something or someone is a pleasant opportunity to relax.

NA = Not Applicable   4 = Neither Agree nor Disagree
1 = Strongly Disagree   5 = Slightly Agree
2 = Moderately Disagree   6 = Moderately Agree
3 = Slightly Disagree   7 = Strongly Agree

27. I eat fast, because sometimes I feel that I could put the time I spend eating to better use.

28. I frequently get irritated when a person takes too long in making his/her point in a normal conversation.

29. I get agitated when someone is late in meeting with me.

PERCEIVED PRODUCTIVITY

Introduction

The statements below deal with the output of your group. For some jobs certain statements may not be applicable. Should this be the case for your work group, then you should select the not applicable statement coded "NA" below. Indicate your agreement with the statement by selecting the answer which best represents your attitude concerning your work group.

NA = Not Applicable   4 = Neither Agree nor Disagree
1 = Strongly Disagree   5 = Slightly Agree
2 = Moderately Disagree   6 = Moderately Agree
3 = Slightly Disagree   7 = Strongly Agree

30. The quality of output of your work group is very high.

31. When high priority work arises, such as short suspenses, crash programs, and schedule changes, the people in my work group do an outstanding job in handling these situations.

32. Your work group's performance in comparison to similar work groups is very high.

33. The quantity of output of your work group is very high.

JOB INVENTORY

Instructions

Below are items which relate to your job. Read each statement carefully and then decide to what extent the statement is true of your job. Indicate the extent that the statement is true for your job by choosing the statement below which best represents your job.

1 = Not at all	5 = To a fairly large extent
2 = To a very little extent	6 = To a great extent
3 = To a little extent	7 = To a very great extent
4 = To a moderate extent	

52. To what extent are the requirements placed on you in your job in line with your interests and values?

53. To what extent does your present job fulfill your expectations of what a good job involves?

54. To what extent does your job require communication between workers?

55. To what extent are group meetings used to solve problems and establish goals and objectives within your work group?

56. To what extent does your job provide you with the opportunity to accomplish something worthwhile?

57. To what extent does your job enable you to use your natural talents?

58. To what extent does your job utilize your training for that job?

59. To what extent are you allowed to provide ideas for solving job related problems?

60. To what extent are your ideas utilized in solving job related problems?

61. To what extent does your job provide you with the chance to finish completely the piece of work you have begun?

62. To what extent does your job require you to do many different things, using a variety of your talents and skills?

63. To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?

SUPERVISOR INVENTORY

Instructions

The statements below describe characteristics of managers or supervisors. Indicate your agreement by choosing the statement below which best represents your attitude concerning your supervisor.

NA = Not Applicable   4 = Neither Agree nor Disagree
1 = Strongly Disagree   5 = Slightly Agree
2 = Moderately Disagree   6 = Moderately Agree
3 = Slightly Disagree   7 = Strongly Agree

79. Your organization is very interested in the attitudes of the group members toward their jobs.

80. Your organization has a very strong interest in the welfare of its people.

81. I am very proud to work for this organization.

82. I could produce a higher quality product, if I only had more time.

83. This organization rewards individuals based on performance.

84. I am uncertain I will still have a job with this organization in the future.

85. People equal to or above my supervisor's position give me tasks without going through my supervisor.

86. There are far too many policies and regulations constricting my effective job performance.

87. I could do my job better if the organization had fewer rules.

88. My relationship with my peers is a good one.

89. There are very few disagreements or conflicts between myself and my co-workers.

90. I have to do things that should be done differently.

91. I work on unnecessary things.

92. I receive an assignment without adequate resources and materials to execute it.

93. I am consulted on decisions that affect my general work area.

94. I am just a pawn, subject to the whims of personnel above me.

95. I do not really have to worry about my output, it would be almost impossible for me to lose my job even if I only put in minimal effort.

1 = Not at all   5 = To a fairly large extent
2 = To a very little extent   6 = To a great extent
3 = To a little extent   7 = To a very great extent
4 = To a moderate extent

105. To what extent do you call attention to the situation in which a latecomer is waited on before you?

106. To what extent do you insist that your landlord (mechanic, repairman, etc) make repairs that are his/her responsibility to make?

107. To what extent are you able to speak up for your viewpoint when you differ with a person you respect?

SOCIAL ENVIRONMENT INVENTORY

Instructions

The items below relate to your social life away from your job. Indicate how much you agree/disagree with each item. Choose the statement below which best describes your degree of agreement.

NA = Not Applicable   4 = Neither agr e nor disagree
1 = Strongly disagree   5 = Slightly agree
2 = Moderately disagree   6 = Moderately agree
3 = Slightly disagree   7 = Strongly agree

108. I am extremely well known in my community, and am well respected for my contributions.

109. I am extremely involved in social activities outside my job.

110. I am frequently asked to contribute time and effort in community projects.

111. I have several hobbies and/or interests apart from work.

112. I lead an active fulfilling social life.

113. I find satisfaction in doing something I enjoy.

114. I often find that my involvement in community affairs interferes with time I would be better off spending on my job.

115. I feel guilty when I'm not working on furthering my career.

PERCEIVED STRESS

This portion of the questionnaire relates primarily to the extent to which you perceive yourself as under stress and to what you consider the prime contributor.

128. To what extent are you satisfied with your family life?

129. To what extent is your relationship with your spouse a good one?

130. To what extent do you and your wife/husband enjoy your time together?

FOOD CONSUMPTION INVENTORY

Instructions

Use the scale below to answer the questions for this section.

    NA = Never consume (eat or drink) the item(s).   5. 6-8 times each week.
    1 = 2-3 times each month (or less).   6. 9-11 times each week.
    2 = Once each week.   7. 12 or more times each week.
    3 = 2-3 times each week.
    4 = 4-5 times each week.

How many times do you consume the following food items?

131. Eggs

132. Dairy products (whole milk, ice cream, cheese, etc. - skim milk does not
      count).

133. Beef and Pork (steak, hamburger, sausage, spare ribs, etc.)

134. Fried foods (chicken, french fries, potato chips, etc.)

135. Butter (not margarine) and/or sour cream.

BACKGROUND INFORMATION

Instructions

The last section of this survey concerns your background. Please darken the
space on the optical scan form which corresponds with your response to each
question.

136. Total months in this organization is:

    1 Less than 1 month.
    2 More than 1 month, less than 6 months.
    3 More than 6 months, less than 12 months.
    4 More than 12 months, less than 18 months.
    5 More than 18 months, less than 24 months.
    6 More than 24 months, less than 36 months.
    7 More than 36 months

75

144. How stable are your work hours?

    1 Highly Stable--Routine 8 hours a day.
    2 Very Stable--Nearly routine 8 hour day.
    3 Moderately Stable--Shift work which periodically changes.
    4 Slightly Unstable--Irregular working hours.
    5 Highly Unstable--Frequent business trip or away from office.

145. How stable is your work location?

    1 Highly Stable--Six to eight hours per day at one central location, office
       or desk.
    2 Very Stable--At least half the day at office or desk.
    3 Slightly Unstable--Work predominately away from desk.
    4 Highly Unstable--Constantly on the road (i.e., traveling salesman).
    5 Periodically Unstable--Work at one location for a short period of time
       then another location for a short period of time (i.e., oil well
       driller, consultant, doctor--working hospital and office, etc.).

146. Your work schedule is basically:

    1 Shift work, usually days.
    2 Shift work, usually swing shift.
    3 Shift work, usually nights.
    4 Shift work, usually days and nights.
    5 Daily work only.
    6 Crew schedule.
    7 Other.

147. Have you been diagnosed as having coronary artery disease or coronary heart
     disease?

    1 Yes
    2 No

148. Have you been diagnosed as having an ulcer?

    1 Yes
    2 No

149. Do you have a problem with your blood pressure?

    NA = Don't Know
    1 Yes, high blood pressure
    2 Yes, low blood pressure
    3 No

150. Do you have frequent or severe headaches?

    1 Yes
    2 No

MEN

WEIGHT CATEGORY

Height	1 This Weight and Under	2	3	4	5	6	7 This Weight or Greater
6' 4"	138	139-155	156-171	172-190	191-208	209-227	228
6' 3"	134	135-150	151-166	167-185	186-203	204-221	222
6' 2"	130	131-146	147-161	162-180	181-197	198-215	216
6' 1"	126	127-142	143-157	158-175	176-192	193-209	210
6' 0"	123	124-139	140-153	154-170	171-186	187-203	204
5'11"	120	121-135	136-149	150-165	166-181	182-197	198
5'10"	117	118-131	132-146	147-160	161-175	176-191	192
5' 9"	114	115-128	129-141	142-156	157-171	172-186	187
5' 8"	110	111-124	125-137	138-152	153-166	167-181	182
5' 7"	107	108-121	122-133	134-147	148-161	162-175	176
5" 6"	104	105-117	118-129	130-143	144-156	157-171	172
5' 5"	102	103-114	115-126	127-139	140-152	153-166	167
5' 4"	99	100-112	113-121	122-136	137-149	150-162	163
5' 3"	97	98-109	110-120	121-133	134-145	146-159	160
5' 2"	94	95-106	107-117	118-129	130-141	142-154	155

WOMEN

WEIGHT CATEGORY

Height	1 This Weight and Under	2	3	4	5	6	7 This Weight or Greater
6' 0"	115	116-130	131-143	144-159	160-174	176-190	191
5'11"	112	113-126	117-139	140-155	156-170	171-185	186
5'10"	109	110-122	123-135	136-151	152-165	166-180	181
5' 9"	106	107-119	110-131	132-147	148-161	162-175	176
5' 8"	102	103-115	116-127	128-143	144-156	157-171	172
5' 7"	99	100-112	113-123	124-139	140-152	153-166	167
5' 6"	96	97-108	109-119	120-135	136-150	149-161	162
5' 5"	93	94-106	5-115	116-130	131-142	143-155	156
5' 4"	90	91-102	103-112	113-126	127-138	139-150	151
5' 3"	88	89-99	100-109	110-122	123-133	134-145	146
5' 2"	86	87-96	97-106	107-119	120-130	131-142	143
5' 1"	83	84-94	95-103	104-116	117-127	128-138	139
5' 0"	81	82-91	92-100	101-113	114-123	124-135	136
4'11"	78	79-88	89-97	98-110	111-120	121-131	132
4"10"	77	77-86	87-95	96-107	108-117	118-127	128

77

_____

_____

1. Medication Name:

    a. _____

    b. _____

    c. _____

    d. _____

    e. _____

2. Use (if known):

    a. _____

    b. _____

    c. _____

    d. _____

    e. _____

3. Dosage (if known):

    a. _____

    b. _____

    c. _____

    d. _____

    e. _____

157. Which of the following statements best describe your marital status?

NA Not married - No children
1   Married - Spouse is employed outside home.
2   Married - Separated due to employment.
3   Married - Separated by choice.
4   Married - Spouse is not employed.
5   Married - Spouse is not employed - separated due to employment.
6   Divorced - Do not have custody of children.
7   Single parent.

158. If I have my own way, I will not be working for my present organization a year from now.

1   Strongly Disagree
2   Slightly Disagree
3   Neither Agree nor Disagree
4   Slightly Agree
5   Strongly Agree

159. I really think that I will be at this organization a year from now (i.e., US Air Force, Industry, Hospital, etc.).

1   Strongly Disagree
2   Slightly Disagree
3   Neither Agree nor Disagree
4   Slightly Agree
5   Strongly Agree

160. Are you currently (within the last week) taking any prescribed or non-prescribed medication?

1   No.
2   Yes. If yes, then turn to the next page and fill in your identification number (the one on the upper right corner of your optical scan form) and complete the page.

151. If you are a jogger, the average number of miles you jog per day is:

   1 I do not jog.
   2 1 mile.
   3 2 miles.
   4 3 miles.
   5 4 miles.
   6 5 miles.
   7 More than 5 miles.

152. If you smoke cigarettes, you smoke the following number of cigarettes:

   1 I do not smoke cigarettes.
   2 Less than 5 per day.
   3 6-10 per day.
   4 11-20 per day.
   5 21-30 per day.
   6 31-40 per day.
   7 More than 40 per day.

153. If you smoke a pipe or cigar, you smoke the following number of pipe bowls
     or cigars:

   1 I do not smoke a pipe or cigar.
   2 Less than 2 bowls or cigars per day.
   3 2-4 bowls or cigars per day.
   4 5-6 bowls or cigars per day.
   5 7-8 bowls or cigars per day.
   6 9-10 bowls or cigars per day.
   7 More than 10 bowls or cigars per day.

154. Consult the chart on the next page to answer the following question. Your
     weight category (according to height)is:

155. Which statement most accurately describes your exercise program?

   1 I do not participate in any exercise program as I get sufficient exercise
      through the exertions of my job.
   2 I do not exercise regularly.
   3 I participate in a light exercise program (hiking, bowling, golf).
   4 I participate in moderate exercise program (tennis, baseball, ping pong).
   5 I participate in a strenuous exercise program (jogging, football, swimming).

156. I participate in an exercise program:

   NA = I do not participate in an exercise program.
   1 At least once a week.
   2 At least twice a week.
   3 At least three times a week.
   4 At least four times a week.
   5 At least five times a week.
   6 More than five times a week.

137. Total months experience in present job is:

1 Less than 1 month.
2 More than 1 month, less than 6 months.
3 More than 6 months, less than 12 months.
4 More than 12 months, less than 18 months.
5 More than 18 months, less than 24 months.
6 More than 24 months, less than 36 months.
7 More than 36 months.

138. Your race is:

1 American Indian or Alaskan Native
2 Asian or Pacific Islander
3 Black, not of Hispanic Origin
4 Hispanic
5 White, not of Hispanic Origin
6 Other

139. Your sex is:

1 Male
2 Female

140. Your highest educational level obtained was:

1 Non-high school graduate
2 High school graduate or GED
3 Some college work
4 Bachelor's degree
5 Some graduate work
6 Master's degree
7 Doctoral degree

141. How many people do you directly supervise (i.e., those for which you write performance reports)?

1 None   5 9 to 12
2 1 to 2   6 13 or 20
3 3 to 5   7 21 or more
4 6 to 8

142. Does your supervisor actually write your performance report?

1 Yes
2 No

143 Your work requires you to work primarily:

1 Alone
2 With one or two people
3 As a small group team member (3-5 people)
4 As a large group team member (6 or more people)
5 Other

81

Using the scale below indicate the extent to which you agree with the statement.

NA = Not Applicable   4 = Neither Agree nor Disagree
1 = Strongly Disagree   5 = Slightly Agree
2 = Moderately Disagree   6 = Moderately Agree
3 = Slightly Disagree   7 = Strongly Agree

116. I am extremely frustrated by my fight for social acceptance away from the job.

117. I feel highly tense because I can't seem to progress in my job.

118. I feel a great deal of stress and anxiety in the performance of my job.

119. My unfulfilled homelife greatly adds to my frustration.

120. My lifestyle away from my job is extremely tense and stressful.

121. I must admit that it makes me angry when other people interfere with my daily activity.

122. I find that a well-ordered mode of life with regular hours is congenial to my temperament.

123. It bothers me when something unexpected interrupts my daily routine.

124. I don't like to undertake any project unless I have a pretty good idea as to how it will turn out.

125. I find it hard to set aside a task that I have undertaken, even for a short time.

FAMILY INVENTORY

Instructions

Indicate your agreement with the statement by selecting the answer which best represents your opinion.

1 = Not at all   5 = To a fairly large extent
2 = To a very little extent   6 = To a great extent
3 = To a little extent   7 = To a very great extent
4 = To a moderate extent

126. To what extent are things going well between you and your wife/husband?

127. To what extent are there negative feelings between you and your wife/husband when you are together?

JOB SATISFACTION QUESTIONNAIRE

Instructions

The items below relate to your job or the Air Force as a profession. Indicate how satisfied or dissatisfied you are with each item. Choose the statement below which best describes your degree of satisfaction or dissatisfaction.

NA = Not Applicable
1 = Extremely dissatisfied
2 = Moderately dissatisfied
3 = Slightly dissatisfied

4 = Neither satisfied nor dissatisfied
5 = Slightly satisfied
6 = Moderately satisfied
7 = Extremely satisfied

96. <u>Progression Opportunities</u>: The chance to rise up the ladder to upper level management positions.

97. <u>Feeling of Helpfulness</u>: The chance to help people and improve their welfare through the performance of your job.

98. <u>Family Attitude Toward Job</u>: The recognition and the pride your family has in the work you do.

99. <u>Work Itself</u>: The challenge, interest, importance, variety, and feelings of accomplishment you receive from your work.

100. <u>Job Security</u>

101. <u>Acquired Valuable Skills</u>: The chance to acquire valuable skills in your job which prepare you for future opportunities.

102. <u>Your Job as a Whole</u>

ASSERTIVENESS INVENTORY

Instructions

The following questions will attempt to measure your level of assertiveness. Indicate your agreement with the statement by selecting the answer which best represents your opinion.

1 = Not at all
2 = To a very little extent
3 = To a little extent
4 = To a moderate extent

5 = To a fairly large extent
6 = To a great extent
7 = To a very great extent

103. To what extent do you call it to his/her attention when a person is highly unfair?

104. To what extent do you speak out or protest when someone takes your place in line?

NA = Not Applicable   4 = Neither Agree nor Disagree
1 = Strongly Disagree   5 = Slightly Agree
2 = Moderately Disagree   6 = Moderately Agree
3 = Slightly Disagree   7 = Strongly Agree

Select the corresponding number and mark your answer on the separate answer sheet.

64. My supervisor is a good planner.

65. My supervisor represents the group at all times.

66. My supervisor establishes good work procedures.

67. My supervisor has made his/her responsibilities clear to the group.

68. My supervisor performs well under pressure.

69. My supervisor always helps me improve my performance.

70. My job performance has improved due to feedback received from my supervisor.

71. My supervisor frequently gives me feedback on how well I am doing my job.

72. My relationship with my supervisor is a good one.

73. My supervisor is cooperative.

74. My supervisor is supportive of the people who work for him/her.

75. My supervisor provides close control and firm direction.

76. My supervisor sets procedures and work to be done.

77. My supervisor spends too much time in minor details.

78. My supervisor requires paperwork that is not needed for the job.

ORGANIZATION CLIMATE INVENTORY

Instructions

Below are items which describe characteristics of your organization. Indicate your agreement by choosing the statement below which best represents your opinion concerning your organization.

1 = Not at all   5 = To a fairly large extent
2 = To a very little extent   6 = To a great extent
3 = To a little extent   7 = To a very great extent
4 = To a moderate extent

Select the corresponding number for each question and enter it on the separate answer sheet.

34. To what extent does your job provide a great deal of freedom and independence in scheduling your work and selecting your own procedures to accomplish it?

35. To what extent does your job give you freedom to do your work as you see fit?

36. To what extent do you use your time for weekly or monthly planning?

37. To what extent do you use your time for daily planning?

38. To what extent is your work group involved in establishing goals?

39. To what extent is there conflict between your work group and another work group in your organization?

40. To what extent is there conflict between your organization and another organization with which you have some work-related dealings?

41. To what extent are your job performance goals realistic?

42. To what extent are you proud of your job?

43. To what extent does your job give you a feeling of pride and self-worth?

44. To what extent does doing your job well affect a lot of people?

45. To what extent is your job significant, in that it affects others in some important way?

46. To what extent is your work group involved in establishing goals?

47. To what extent are your job performance goals clear and specific?

48. To what extent do you know exactly what is expected of you in performing your job?

49. To what extent would you like to have the opportunity for personal growth in your job?

50. To what extent would you like to have the opportunity to use your skills in your job?

51. To what extent would you like to have the opportunity to perform a variety of tasks in your job?

18. 1 I am <u>always</u> in a rush, even when I don't have to be.
    2 <u>Most</u> of the time I'm in a hurry, even when I don't have to be.
    3 I <u>occasionally</u> find myself in a hurry, even though most of the time I don't have to.
    4 I <u>seldom</u> hurry myself; only when I have to.
    5 I <u>will</u> <u>not</u> hurry myself, even when I know I'm late.

19. 1 I <u>always</u> try to do too much, as a result I <u>always</u> feel tired.
    2 I <u>frequently</u> try to do too much, and as a result I feel tired <u>most</u> of the time.
    3 On <u>rare</u> <u>occasions</u> I find myself trying to do too much; when these occasions arise, I slow down.
    4 I <u>pace</u> myself in accomplishing tasks so that they are all accomplished with the minimum amount of fatigue.
    5 I <u>will</u> <u>not</u> overextend myself, even if it means not getting something done.

20. 1 I set <u>very</u> high work standards for myself, and get <u>very</u> upset when I don't meet them.
    2 I set <u>high</u> work standards for myself, and get upset when I don't meet them.
    3 I set my own work standards, and it bothers me <u>somewhat</u> if I don't meet them.
    4 I set work standards for myself, and it bothers me to a <u>little</u> <u>extent</u> if I don't meet them.
    5 I maintain work standards that I can make without overextending myself, and I do not get upset if I occasionally fail.

PART II

Instructions

Indicate your agreement with the statement by selecting the response option which best represents your attitude concerning your personal attributes.

NA = Not Applicable   4 = Neither Agree nor Disagree
 1 = Strongly Disagree   —   5 = Slightly Agree
 2 = Moderately Disagree   .   6 = Moderately Agree
 3 = Slightly Disagree   7 = Strongly Agree

21. I like winning any game or event, and I am very disappointed if I lose.

22. I hate to wait on anything or anybody.

23. I am frequently in a hurry, even when I don't have to be.

24. I frequently get upset and angry with people, but I usually do not show it.

25. I set high work standards for myself, and get upset when I don't meet them.

26. I frequently try to do too much, and as a result I feel tired <u>most</u> of the time.

PERSONAL BELIEFS

Instructions

This portion of the questionnaire relates the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives numbered 1 or 2. Using the scale below, indicate which statement most closely follows your own beliefs and record it on your answer sheet.

1 = I strongly agree more with statement 1
2 = I moderately agree more with statement 1
3 = I slightly agree more with statement 1
4 = I slightly agree more with statement 2
5 = I moderately agree more with statement 2
6 = I strongly agree more with statement 2

1. 1 Usually people get the respect they deserve in this world.
   2 An individual's worth often passes unrecognized no matter how hard he/she tries.

2. 1 The idea that teachers are unfair to students is nonsense.
   2 Most students don't realize the extent to which their grades are influenced by accidental happenings.

3. 1 Becoming a success is a matter of hard work; luck has little or nothing to do with it.
   2 Getting a good job depends mainly on being in the right place at the right time.

4. 1 Most citizens can have an influence in government decisions.
   2 This world is run by the few people in power, and there is not much the little guy can do about it.

5. 1 For me, getting what I want has little or nothing to do with luck.
   2 Many times we might just as well decide what to do by flipping a coin.

6. 1 Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.
   2 Who gets to be the boss often depends on who was lucky enough to be in the right place first.

7. 1 There is really no such thing as luck.
   2 Most people don't realize the extent to which their lives are controlled by accidental happenings.

8. 1 It is impossible for me to believe that chance or luck plays an important role in my life.
   2 Many times I feel that I have little influence over the things that happen to me.

9. 1 What happens to me is my own doing.
     Sometimes I feel that I don't have enough control over the direction my life is taking.

If you are in the military service, or are a civil service employee, use block 217 to fill in your rank corresponding to the code below:

| Officers | Civil Service GS | EXAMPLE |

Officers

O-1 fill in 0-1
0-2 fill in 0-2, etc.

Warrent Officer

W-1 fill in 2-1
W-2 fill in 2-2, etc.

Enlisted

E-1 fill in 3-1
E-2 fill in 3-2, etc.

Civil Service
GS

GS-1 fill in 4-1
GS-2 fill in 4-2
.
.
.
GS-7 fill in 4-7
SES fill in 4-16

WG

WG-1 fill in 5-1
WG-2 fill in 5-2
.
.
.
WG-7 fill in 5-7, etc.

EXAMPLE

```
┌──────────────┐
│     217      │
│ ■ [0] [0]    │
│ [-] [-] [-]  │
│ [2] [2] ■    │
└──────────────┘
```

In block 221, fill in your age by blackening the appropriate numbers. For example, a 32 year old person would used the 3 in the first row and the 2 in the second row.

EXAMPLE

```
┌──────────┐
│   221    │
│ [0] [0]  │
│ [-] [-]  │
│ [2] ■    │
│ ■ [3]    │
└──────────┘
```

The scales provided next are either 5, 6, or 7-point scasles with an additional space provided for not applicable (NA) responses. For example:

Scale:

NA = Not Applicable
 1 = Strongly Disagree
 2 = Moderately Disagree
 3 = Slightly Disagree

4 = Neither Agree nor Disagree
5 = Slightly Agree
6 = Moderately Agree
7 = Strongly Agree

Item Statement:

1. My supervisor is a good planner.

Answer Response:

D   NA
|| || 001 |1| |2| |3| |4| |5| |6| ■

In the example above the individual selected option 7 since he or she strongly agreed with the statement. If the response had been considered to be not applicable, the NA response space would have been filled in.

DO NOT STAPLE OR OTHERWISE DAMAGE THE ANSWER SHEET

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91

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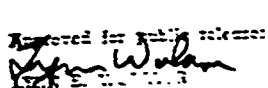
Permanent address: 3106 Winter Haven

Dayton, OH 45424

AD-A147754

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	Approved for public release; distribution unlimited.
4. PERFORMING ORGANIZATION REPORT NUMBER(S) AFIT/GSM/LSY/84S-23	5. MONITORING ORGANIZATION REPORT NUMBER(S)

6a. NAME OF PERFORMING ORGANIZATION School of Systems and Logistics	6b. OFFICE SYMBOL (If applicable) AFIT/LS	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State and ZIP Code) Air Force Institute of Technology Wright Patterson AFB, Ohio 45433		7b. ADDRESS (City, State and ZIP Code)

8a. NAME OF FUNDING/SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State and ZIP Code)		10 SOURCE OF FUNDING NOS

	PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO	WORK UNIT NO

11 TITLE (Include Security Classification)
See Box 19

12. PERSONAL AUTHOR(S) Byron E. Nielsen, Capt., USAF
Robert L. Tremaine, Capt., USAF

13a. TYPE OF REPORT MS Thesis	13b. TIME COVERED FROM ____ TO ____	14 DATE OF REPORT (Yr., Mo., Day) 1984 September	15 PAGE COUNT

16. SUPPLEMENTARY NOTATION

17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB GR	Stress (Psychology), Stress (Physiology), Job Satisfaction, Coronary Disease, Cholesterol
05	10		

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

Title: AN INVESTIGATION OF THE RELATIONSHIP BETWEEN STRESSFUL LIFE EVENTS AND PSYCHOLOGICAL, BEHAVIORAL, AND PHYSIOLOGICAL OUTCOMES

Thesis Chairman: Nestor K. Ovalle, Major, USAF

Approved for public release: IAW AFR 190.y.

[signature]

Dean for Research and Professional Development
Air Force Institute of Technology (ATC)
Wright-Patterson AFB OH 45433

1 August 1984

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED ☒ SAME AS RPT ☐ DTIC USERS ☐	21 ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL Nestor K. Ovalle, Major, USAF	22b TELEPHONE NUMBER (Include Area Code) (513) 255-4020	22c OFFICE SYMBOL AFIT/LS

DD FORM 1473, 83 APR   EDITION OF 1 JAN 73 IS OBSOLETE   UNCLASSIFIED

Individuals in organizations are subjected to stress
from a variety of sources. Problems and uncertainties on and
off-the-job can cause stress in the individual. Stress
effects have been estimated in 1983 to cost American
organizations over 50 billion dollars annually. In an
attempt to assess the impact of stress on Department of
Defense personnel, the Air Force Institute of Technology
administered the Life Events Survey (LES) to 76 individuals,
measuring variables associated with 83 potentially stress-
ful life events. Additionally, these participants completed
a multi-inventory Stress Assessment Package (SAP-2) and
contributed blood samples. This thesis statistically
explored the relationship between major stressful life
events as measured in the LES and the following variables
measured by the SAP-2: 1) perceived off-the-job stress,
2) perceived on-the-job stress, 3) ratio of total blood
cholesterol with high density lipoprotein cholesterol,
4) job satisfaction, 5) intent to remain, and 6) Type A
behavior characteristics. Job related stressful life
events were found to be significantly related to job
satisfaction and Type A behavior, and the life event
of "Vacations" was found to be significantly related to
the ratio of total blood cholesterol to HDL cholesterol.